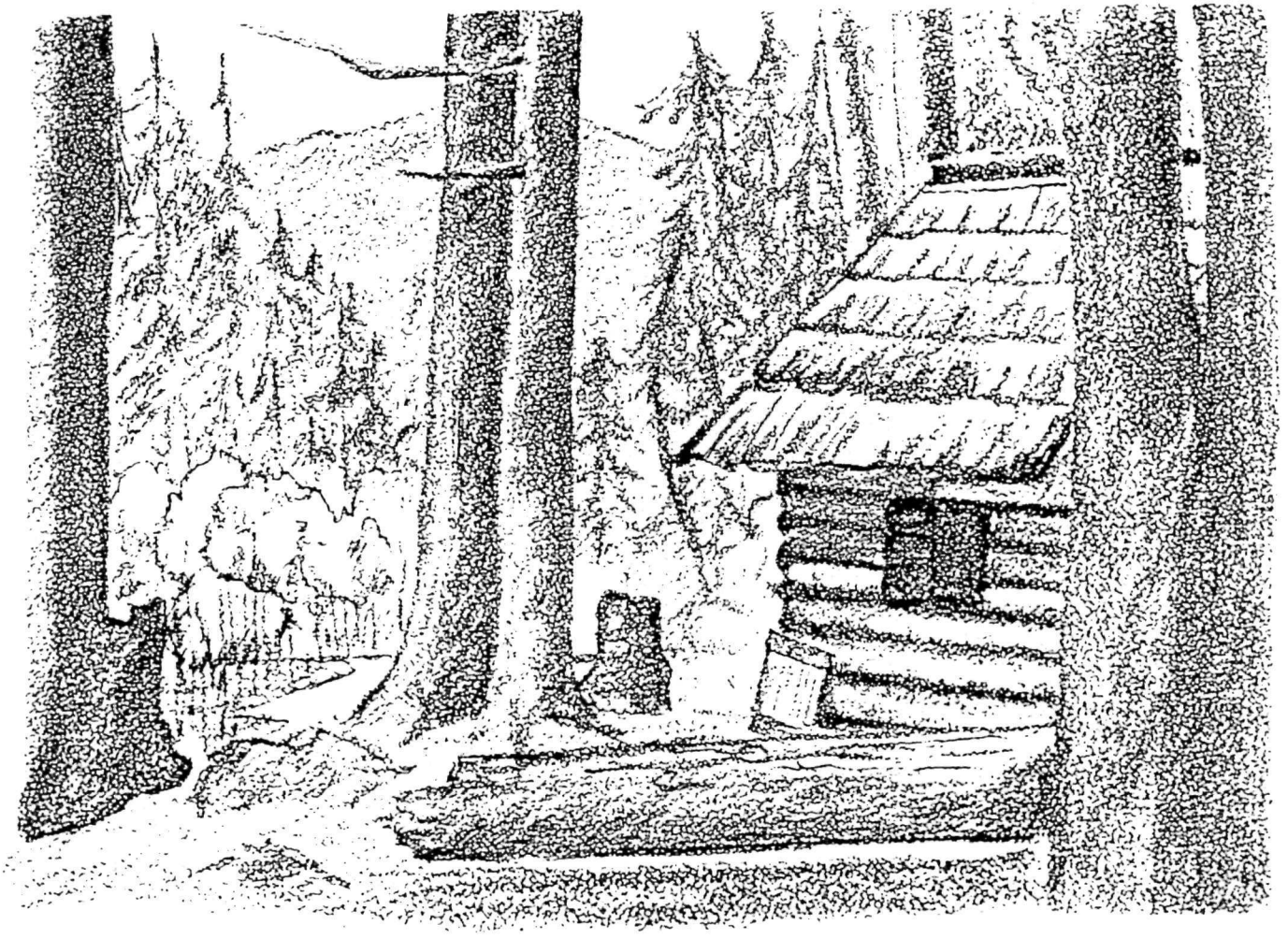


NATIONAL PARK SERVICE
DEPARTMENT OF THE INTERIOR

WILDLAND FIRE REPORT

1993

Prepared by:
Dean Berg
Fire Program Analyst
January, 1994

National Park Service
Branch of Fire & Aviation Management
3056 Elder Street, Suite A
Boise, Idaho 83705-4707

TABLE OF CONTENTS

1993 Servicewide Fire Statistics

TABLE OF CONTENTS

1984 - 1993 Servicewide Fire Statistics

1984 - 1993 Fire Statistics by Region

FIRE ACTIVITY SUMMARY - -

Alaska Region

The Alaska interagency fire management workload totaled 869 fires during 1993 that burned 713,117 acres. National Park Service lands accounted for 23 wildland fires with a total acreage of 40,035 acres; 1 support action and 2 false alarms. One fire in the modified suppression option and another adjacent to a full suppression option required action to meet containment objectives while a mining camp and communication site in limited suppression option required site protection actions.

Mid-Atlantic Region

The 1993 fire season in Mid-Atlantic Region was unusual, in that the highest fire danger and activity occurred in late winter and summer rather than the more typical spring and fall fire seasons. The most active period occurred in February as a result of unseasonably warm temperatures and high winds. The Palmer Drought Index was severe to extreme throughout the region for most of the summer. The peak of summer activity occurred in August as a result of several lightning fires which are also relatively unusual for the region. A total of 57 suppression actions occurred over 139 acres within the region.

In August, a total of 35 individuals from Mid-Atlantic Region were mobilized to the Otter Fire on George Washington National Forest.

Midwest Region

The Midwest Region experienced a relatively quiet wildfire year with 99 incidents/responses, excluding prescribed fire operations. A cool and moist season in many of the parks helped keep fire occurrence down and subsequent burned acreage quite small. The usual exception was Indiana Dunes National Lakeshore, which experienced 75 incidents/responses alone. Ozark National Scenic Riverway was the second most active. All park wildfires responded well to initial attack efforts and none developed into project fires, the largest being the Goliath fire (319 acres) at Indiana Dunes. Burned acreage was kept to its fourth lowest level in the past 10 years. Mutual aid responses remained high though, second to last year's all time high; mostly at Indiana Dunes. Fire causes were within norms, with 15 percent attributed to campfires; 15 percent to exhaust systems; 9 percent each to pyromania, trash burning and burning vehicles; and the remaining 43 percent in various other categories. In contrast to previous years, lightning ignitions played a minor roll.

While the Region has two parks (Voyaguers and Isle Royale) with approved prescribed natural fire (PNF) programs, only Isle Royale had one small acceptable natural fire ignition occur this year, as the fire season across the upper Great Lakes region was generally cool and wet. Isle Royale's PNF was its first since reinstating its PNF program in 1992. The fire burned for only two days, remaining small, due to the considerable rain that fell with the lightning event. Although unconfirmed, another probable PNF candidate was apparently extinguished by a well meaning

concession employee. That one, due to little or no rain accompanying the lightning, could have had more potential.

Parks in the Midwest experienced trials and tribulations in accomplishing all of their management ignited prescribed burning programs this year due to the exceptionally wet spring and summer season; which ultimately lead to the extensive midwest flooding incidents that plagued the region all summer. Despite the difficulty of lighting matches under water, the Region's parks finally accomplished most of their prescribed burns, with 45 burns encompassing 1,551 acres being executed. Many of the spring burns had to be deferred until fall. Of particular note, Voyaguers' 288 acre spring prescribed burn was believed to be the largest operational underburn in jack pine ever completed in the Lake states.

As a new innovation this year, Voyaguers began using the Canadian Forest Fire Weather Index (FWI), along with the United States' National Fire Danger Rating System (NFDRS), to predict fire danger and also for conducting prescribed burns. After running parallel systems for the past two seasons, it has been their experience that the Canadian FWI more accurately predicts fire conditions for their park than NFDRS. They also began using the Canadian Fire Behavior Prediction System, which is based on empirical data and uses actual fuel types that the park is involved with.

Indiana Dunes completed 5 management ignited prescribed burns for 298 acres, including burns for the preservation of habitat for the endangered Karner blue butterfly. The fire crew also completed mapping of lupine plants, a critical component of Karner blue habitat, to determine future prescribed burn strategies for the preservation of the butterfly.

Western mobilization did not impact the Midwest this year with only one overhead resource dispatched to Alaska as an Agency Representative on ten fires at Yukon-Charlie. Upon release from the fires, the individual was reassigned as Planning Section Chief to the cruise ship Yorktown grounding incident in Glacier Bay National Park. The wildland fire mobilization system was utilized, however, to provide emergency resources to the extensive midwest flooding incident on the Mississippi River.

North Atlantic Region

The North Atlantic Region experienced a fairly uneventful year from the standpoint of wildland fire. Seventy-one wildland fires burned a total of 50 acres with no associated property damage. Gateway National Recreation Area again had the greatest number of wildland fires in the Region. For the first time since 1986 there were no crew or single resource mobilizations during the year.

Acadia National Park, Cape Cod National Seashore, Gateway National Recreation Area and Saratoga National Historic Park conducted 6 management ignited prescribed burns for a total of 113 acres. These prescribed fires were conducted for either historic scene maintenance or research purposes.

National Capital Region

The weather in 1993 kept area fire activity to a minimum. The Region provided firefighters to assist local cooperators in suppression of wildfires on the George Washington National Forest. Regional firefighters were also dispatched to other zone fires.

One employee from the region served as a member of the Forest Service (USFS) administered Asheville Interagency Hot Shot Crew during the spring fire season. Another participated in the 3-week long detailer program as a crew boss trainee on the National Park Service (NPS) Alpine Hot Shot Crew.

Pacific Northwest Region

The Pacific Northwest was temporarily relieved of its critical drought status and experienced a year without summer; something that has not occurred since 1984. Fire occurrence and size were dramatically lower with activity at less than ten percent of the average for the last ten years. Even prescribed fire programs were impacted due to wet fuels and snow in some areas; waiting for units to come up into prescription rather than watching windows disappear as the extreme fire danger levels appeared.

The San Juan Islands were added to the prescribed fire community this year. A 6-acre unit was burned to thin the vegetation from 2,000 to 200 stems per acre, opening the site and eliminating a serious fuel hazard.

Crater Lake continued its participation in the local interagency community, assisting in prescribed burning on the 3 adjacent national forests, and utilizing USFS and Bureau of Land Management (BLM) resources on a 200 acre management ignited prescribed burning project in the park. Pile burning in sensitive areas is an on-going project with over 700 piles built for winter burning.

Normally NPS firefighters from the Pacific Northwest are dispatched as part of interagency fire crews, however, this year the region was able to dispatch a 20-person NPS crew from the Puget Sound area in response to wildfire activity in Southern California.

Rocky Mountain Region

For the third straight year, much of the Region experienced heavy snowfall during the winter. However, this situation was not uniform throughout the region and did not persist for the entire winter. Dry conditions and increased fire danger were associated with the spring season.

The central portion of the region experienced the highest levels of fire danger early in the spring as numerous fires occurred with several on cooperator lands requiring Incident Management Team deployment. Early summer conditions brought increased precipitation and some relief from fire activity. The remainder of the summer experienced very low fire occurrence with little activity in and around the region on both NPS and cooperator lands. No Incident Management Teams of any type were activated for NPS units in the region during the entire season.

PNF programs were active all season in Glacier, Yellowstone, Rocky Mountain, Grand Teton National Parks and Dinosaur National Monument. The PNF program was restarted this season in Zion National Park. All PNF programs operated at very low levels of activity.

Management ignited prescribed fires were carried out in Glacier, Rocky Mountain, Wind Cave, Bryce Canyon, Badlands National Parks, Devil's Tower, Jewel Cave National Monuments and Bent's Old Fort National Historic Site. Mechanical hazard fuel reduction programs were active in Wind Cave, Rocky Mountain, Yellowstone National Parks, Mount Rushmore National Memorial Park and Jewel Cave National Monument. Mesa Verde National Park implemented a revised hazard fuel reduction program to facilitate protection activities around developed areas in the park and made significant headway. Plans are to reimplement the program during the summer of 1994.

Participation in interagency crew programs by NPS personnel in the Region was strong this season with significant numbers of personnel involved in crew assignments during the September fire activity in southern California.

In response to the flooding in the midwest, the Forest Service's Region 2 was charged with the management and staffing of a logistical support center in Topeka, Kansas. As a result, numerous NPS individuals were utilized in various positions to support flood relief activities.

As a result of all-risk incident management activities in past year, the region implemented a Type II All-Risk Incident Management Team program in 1993. Two teams with alternates were selected, organized and oriented through a training exercise. The teams were in place by mid-summer.

Southeast Region

Although potential was great for wildfires in the central and eastern areas of the Region due to abnormal weather and high drought indices, fire activity on both NPS and cooperator lands was relatively light. Firefighters from Southeastern parks and Student Conservation Association aids from Mt. Rainier in Washington, were prepositioned in Everglades and Cumberland Island to provide increased initial attack capability during extreme indices.

On June 19th, Cumberland Island staff, with assistance from prepositioned firefighters, held the lightning ignited High Point fire to 160 acres in an area of dense scrub where a wildfire consumed 1,700 acres in less severe conditions a decade ago. A two million dollar development was threatened north of the fire.

In early June, severe drought conditions in South Georgia led to the 500+ acre Gnatcatcher fire on the Okefenokee National Wildlife Refuge. Southeast parks provided 32 personnel to assist in the suppression of this fire.

In early September, the drought also influenced the 90 acre lightning ignited Bunker Lead fire in Great Smoky

Mountains National Park which is an unusual occurrence at that time of the year in the Appalachian Mountains.

Interagency fire crews, overhead and aircraft joined NPS personnel in searching for a missing teenager in Great Smoky Mountains in late March and early April. Over 300 interagency personnel were involved in the search effort.

Abnormal weather conditions led to a freak blizzard across the northern portion of the Southeast in mid-March. A significant number of Southeast NPS and cooperator resources were involved in locating and evacuating backpackers and hikers in the Great Smoky Mountains and surrounding National Forests. Support was also provided to Cape Hatteras in its recovery efforts from Hurricane Emily which struck Buxton Island in early September.

Southwest Region

A third consecutive winter of heavy rains and record snowfall throughout the entire region led to above average spring runoffs and higher than normal soil moistures. Fire fuel development was hindered by a colder than normal spring and with fewer than average episodic wind events. As a result, the early fire season in Arizona, New Mexico and West Texas failed to materialize. A late spring drying trend attributed to a weakened El Nino which increased fire potential significantly and ultimately resulted in an average fire season throughout the desert southwest with over 12,000 NPS acres burned in 16 parks. Incident Management Teams were assigned to several of the fires, including a Type I Team which managed the 6,510 acre Pine Fire at Guadalupe Mountains National Park.

The eastern side of the region continued to receive heavy rains throughout most of the year, but several short drying periods led to significant fire activity at Padre Island, Big Thicket and Buffalo River. By late fall conditions had dried and extreme fire dangers were noted in North Texas and Oklahoma with both Lake Meredith and Chickasaw experiencing significant fire activity.

Southwest Region parks were also active in supporting cooperators throughout the area with equipment and personnel; with the most significant actions being in Southern Arizona, California, West Texas and North Arkansas. The Texas actions are particularly important in that the need for joint powers agreement between the cooperating federal agencies and the state became apparent, and the Southwest Region has assumed the lead in developing the first such agreement with Texas.

The wet conditions throughout much of the year seriously hampered the regionwide management ignited prescribed fire program and resulted in reduced acreage for the year. However, some success was possible and projects were successfully conducted at Walnut Canyon, Bandelier, Carlsbad Caverns, Lyndon B. Johnson, Buffalo River, Pea Ridge, Fort Smith, Arkansas Post, Chickasaw and White Sands. More favorable conditions associated with a declining El Nino are anticipated for 1994, which should lead to completion of all approved projects and increased acreage.

Western Region

Notable wildfires in the Western Region included the Northwest III fire in Grand Canyon National Park, and the Green Meadows and Topanga fires in Santa Monica Mountains National Recreation Area.

The Northwest III fire was a 1,212 acre management ignited prescribed burn converted to wildfire status 3 days after ignition due to winds and low humidity. The burn was ignited September 20th, under prescribed conditions. Although spot weather forecasts were received prior to ignition, adverse weather patterns were not predicted. When spotting began to occur and prescribed conditions disappeared, the burn was declared a wildfire and was suppressed. The fire was contained to the original prescribed fire project boundary for safety and cost efficiency.

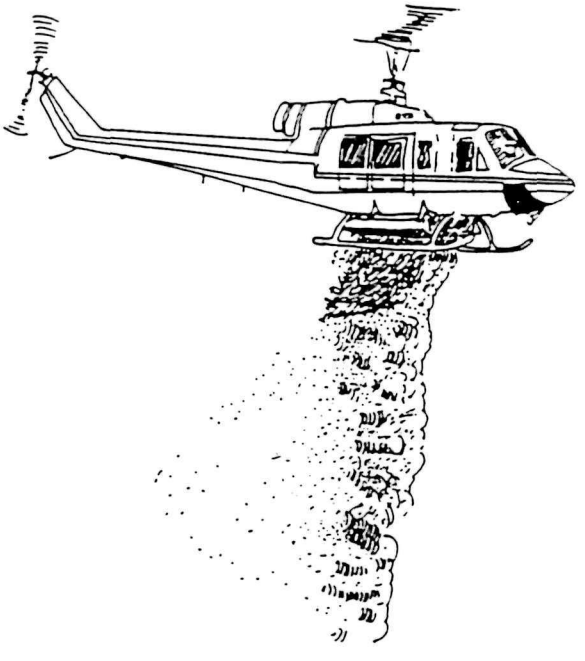
In October, the Green Meadows fire burned a total of 38,152 acres, including 5,500 acres of NPS land. Park Service structures lost included the Circle X Ranch maintenance facility, miscellaneous trail-side restrooms, a trail bridge, the Circle X Ranch pool storage facility and a pumping station.

The Topaga fire burned approximately 1,500 acres, which included 200 acres of NPS land. No NPS owned structures were lost.

The late season fires in southern California brought heavy mobilization of Western Region resources including the NPS Arrowhead Hotshots, numerous engines, miscellaneous overhead and a Type II handcrew strike team from parks in California and Hawaii.

Aside from these fires, the season was relatively quiet, which permitted a significant amount of prescribed burning to be accomplished. Management ignited prescribed fire acreage was about 6,783 acres, which is the most productive year in the past decade.

A heavy snowpack contributed to a relatively slow prescribed natural fire (PNF) season, with 26 fires for 2,902 acres. The majority of acreage was at Kings Canyon and Grand Canyon National Parks. Sequoia-Kings Canyon's Buck Peak PNF reached 2,168 acres, and Grand Canyon's Walhalla and Emerald PNF's totaled nearly 500 acres.



PROGRAM ACCOMPLISHMENTS - -

Branch of Fire and Aviation Management

Branch staff conducted site visits for the purpose of program review and assistance to Mount Rainier and Hawaii Volcanoes; and a brief review of wildland fire issues at Pu'uhonua O Honaunau, Puukohola Heiau and Kaloko-Honokohau. FIREPRO program audits were conducted in Hawaii Volcanoes, Southwest Regional Office, Glacier, Yellowstone and Acadia. A site visit to Cumberland Island National Seashore was conducted for the purpose of a program review, participation in a public meeting and to provide assistance in preparation of the park's Fire Management Plan.

Branch staff participated in a review of the Pine fire which occurred in Guadalupe Mountains.

The NPS has about a 90 percent success rate in controlling wildfires within the initial attack stage. However, for those fires which escape initial attack, the NPS only is able to control 70 percent of those escapes during extended attack, meaning that 30 percent of all escapes evolve into project size fires. Factors causing this inability to control a larger percentage of wildfires during extended attack were field reviewed in 1993 at El Malpais, Guadalupe Mountains and Lake Meredith. A preliminary list of factors has been developed and these will be compared against other incidents during continued field analysis in 1994.

Almost 1.2 million dollars was allocated to parks to purchase more than 100 pieces of capital equipment in 1993. Since this program began in 1988, 5.5 million dollars have been allocated to parks to purchase over 400 capital equipment items. This includes 49 wildland fire engines, 58 slip-on pumper units, 10 trailer-mounted pumper units, 27 remote automated weather stations (RAWS units) and one wildland fire boat.

Seventeen surplus wildland fire engines were acquired from the USFS in 1993, rehabilitated, outfitted and delivered to parks at a total cost of 200,000 dollars. This represents a savings of more than 1,000,000 dollars for the same number of new engines. Most of the credit for this project goes to Bill Oswald, Fire Management Officer at Golden Gate National Recreation Area.

After considerable time and effort in liaison to national working committees, accomplishments in prescribed fire resulted. Some noteworthy results included; development of a proposed prescribed fire position organization, prescribed fire task books and transmittal to the field for a one year test and review period, recommendation for development of an Air Quality Working Committee, revision of Prescribed Fire Behavior Analyst training course, development and revision of RX-340, Introduction to Fire Effects, and completion of two test course offerings. Additional interagency working committee assignments resulted in revision and completion of the National Park and Wilderness Fire Management training course, development of a recommendation to NWCG in regard to snag hazard accident mitigation and continued

management oversight of DOI fire research projects.

Branch staff participated in interagency training course offerings including; National Park and Wilderness Fire Management and Introduction to Fire Effects. The second interagency "Fire Management for Agency Administrators" was conducted at National Advanced Resource Technology Center (NARTC), with the U. S. Forest Service (USFS) and Bureau of Indian Affairs (BIA) participating with the NPS. Twenty-eight superintendents participated in this session.

The second season for filming the "Fire Management in the NPS" video was completed, with additional footage shot at Saratoga, Herbert Hoover, Voyageurs and Grand Canyon. An initial draft was reviewed by Branch staff and additions were recommended which will include several more location shots, with completion scheduled for Spring of 1994.

The Multi-Agency Training Schedule is now sent out monthly to over 500 NPS users via cc:Mail, as well as to the Fish and Wildlife Service (USFWS), BLM, USFS, and BIA. Most states also receive the training schedule.

A position paper was drafted for and approved by NWCG, which outlines approved procedures for all agencies to address NWCG Qualifications, Training and ICS issues; how issues are identified, brought forward, acted upon and ultimately approved by NWCG. NPS will follow those procedures explicitly.

The second year of a scheduled 10-year NWCG suppression curriculum revision project was accomplished, with numerous NPS subject matter experts providing valuable expertise in revising or developing new courses.

A draft NWCG Prescribed Fire Qualifications and Training Curriculum was presented to the field for a one year review period, ending in May 1994. NPS will be heavily involved in assisting with appropriate course development when the final NWCG prescribed fire package is approved.

The NPS "Extreme Fire Behavior Tactical Responses" course development effort was approved by the NWCG Training Working Team and will be included in the tactics portion of the new S-330 "Strike Team/Task Force Leader" course. This "Tactical Responses" unit is being developed with interagency involvement, spearheaded by Branch of Fire and Aviation Management staff.

The NPS wildland fire instructor cadre inventory on the Wildland Fire Management Computer System (WFMCS) was updated, and was used for inclusion in the first Interagency Wildland Fire Instructor list published by National Interagency Fire Center (NIFC). Continual efforts must be made by NPS field units to update/input their instructor data in the WFMCS.

A new training budget request program was created and instituted in the FIREPRO menu in the WFMCS. This, for the first time, provides Servicewide training needs analyses and budget formulation, tracking and expenditure reporting capabilities at the park, regional and national levels.

Two 1-week WFMCS training sessions were conducted in Boise in June. The sessions, offered as instructor handoffs, prepared 28 individuals from both park and regional fire management offices to serve as instructors and provide support to other WFMCS users.

Branch staff assisted in the training of Type II NPS All-Risk Incident Management Teams from the Mid-Atlantic Region (2 teams), Midwest/Rocky Mountain Regions (3 teams), North Atlantic Region (2 teams), and Southeast Region (2 teams).

Branch personnel conducted all-risk Incident Commander training for all law enforcement commissioned rangers in the Alaska Region. Considerable time was devoted to reviewing teaching modules and conducting the first test course of the revised Incident Command System (ICS) curriculum. The latter was done with the assistance of personnel from the Southwest Regional Office and El Malpais. Finally, much time and effort was spent revising the I-420 (Command and General Staff) course and simulation exercise prior to the instructor handoff for this course.

The Branch assisted Region 4 (southeast) of the USFWS in developing a regional all-risk emergency response plan. In addition, Branch personnel helped review and exercise test the revised hurricane preparation and response plan for Everglades and served as an ICS advisor for Bridge Day at New River Gorge. Presentations on the NPS response to Hurricane Andrew were given at the National Association for Search and Rescue and Incident Management Systems Consortium annual meetings

The Service is working closely with the other Interior Bureaus in the development of a prevention workload analysis. It is a computer software application that will define historical, planned, and minimum levels of prevention activity, which will then tie into FIREPRO to generate funds and/or positions. This software will be available at no cost to the field in the early spring of 1994. The NPS and the BLM will be sponsoring train the trainer course in the use of the software during 1994.

Numerous WASO policy statements were issued in response to adoption of NWCG guidelines, including "Entrapment Investigation Guidelines" and "Use of Live Fire Training for Shelter Training." A significant WASO memorandum of resolution regarding differences in NPS-57 "Health and Safety" and NPS-18 "Fire Management Guidelines" was issued in December.

Upon the urging of the NPS, the NWCG Safety and Health Working Team has proposed that a wildland fire orientation program be provided to federal Occupational Safety and Health Administration (OSHA) compliance officers. We are waiting for formal OSHA acceptance and approval, but initial reports are favorable. This is in response to several recent problems other land management agencies have had with

OSHA in wildland fire management incidents.

Several park and regional fire management staff participated in software testing, reviewed current programming and provided recommendations for changes to the automated fire reporting and situation reporting programs in the WFMCS. Recommendations were assessed and prioritized for programming changes that should be developed and released to all system users in 1994.

The modernization of the Qualification System computer programs continued in 1993. Main areas of new development were in management programs which define how the various programs in the system run and interact. Steps were taken to completely switch from a training based system to a fully functional performance based system.

The overhead development program will be managed in the Qualifications System under the new "Organizational Needs" revision. The system will be demonstrated to the Regional Fire Management Officers at their annual meeting in February 1994. This program will track career paths for any ICS position and provide managers information on who is one, two, or more positions away from a specified target job, and will further identify any training requirements and the order in which the required courses should be taken.

The Automated Data Processing (ADP) computer system contract continues to evolve with enhancements and program development as described above, and it has captured the interest of other agencies. In 1993, the BIA, USFWS and NPS continued to be involved in the development of software both for their bureau-specific use or as shared applications for the three Interior bureaus. New cooperators taking an interest in the system included the BLM, and the Department of the Interior's (DOI) Office of Environmental Policy and Compliance (Regional Oil Spill Response Coordinators).

As a result of growing interest in the NPS Qualifications/Certification computer programs and the current Administration's thrust to "reinvent government", the four Interior wildland fire agencies (NPS, BIA, USFWS and BLM) are currently reviewing opportunities to develop greater efficiencies within the Interior fire program. The opportunity to implement a joint computer system for Interior wildland fire bureaus will be implemented during the summer of 1994. Those who have used the NPS WFMCS in the past will see a new menu system that will merge elements from BIA, USFWS and NPS systems into a single menu application capable of handling all Interior wildland fire bureaus.

The Qualifications/Certification system will be the first computer application utilized by all Interior bureaus to facilitate sharing of qualifications data. Red-carded personnel will still retain agency identification, but qualifications program administration will be more simplified.

The Fire Occurrence (DI-1202) reporting system will be the next available Interior application on the joint Interior computer system. Fire occurrence programming is currently in the process of being rewritten to accommodate the four bureaus' reporting needs.

Major benefit from a jointly shared applications computer system within the Interior wildland fire bureaus will be the ability of each agency to share knowledge and information. The opportunity for any user to fill in for another bureau will take little training due to the design of this common computer system.

The National Park Service joined many other agencies in the transition from Automated Forest Fire Information and Retrieval Management System (AFFIRMS) to Weather Information Management System (WIMS) in 1993. As with any major change, this transition did not come without frustration for both users and support staff. The initial major problem faced by all agencies was the necessary purchase of communications software (SIMPC) to allow access to WIMS. The Branch of Fire and Aviation Management purchased 77 copies of SIMPC to distribute to primary park and regional office users. Regional fire management officers and other parks purchased the remaining additional copies of the software needed to ensure that the new system was available to those who depend on WIMS for fire management planning and operations. A total of 223 user log-in identification numbers were issued by the Branch to authorize access to the system. Problems with the WIMS programs were many and varied, and NPS users played a significant role in working closely with the USFS WIMS support staff in Missoula to resolve many issues. In addition, the Branch provided support funding to cover the cost of two-week details for three NPS staff (Kristy Macmillan/Buffalo River; Helen Allen/Sequoia-Kings Canyon; Tim Stubbs/Carlsbad Caverns) to Missoula to become more familiar with the new system and provide assistance to the WIMS support staff.

Site visits for structural fire program review and orientation to National Park Service structural conditions were conducted at nine facilities during the calendar year. These facilities represented the full range of size (very large to very small), location (remote area and urban areas) and complexity (concentrated and diverse developments to single resource units).

The long-anticipated revision of NPS-58, Structural Fire Guideline, has been started. Preliminary work has included identification of specific areas of concern and the development of a plan to address those issues. Further work has been put on hold pending review of a Structural Fire Program review process.

After much study and a considerable amount of review, a process developed by the International Association of Fire Chiefs (IAFC) is being considered for modification to meet the management needs in the National Park Service to evaluate the adequacy of structural fire programs at the park, regional and national levels. Initial evaluation indicates a promising potential for a methodology that will be applicable to the diverse array of structural fire safety challenges presented

by National Park Service facilities. The system uses self-assessment to review identified categories of information using specific criteria and performance indicators and objectives. It can be as simple or as complex as the user desires. Program guidelines, training, "how to" manuals, and technical support will ease the pain and uncertainty of field application. The results will be a major stride in the collecting and coordinating of information necessary to justify assignment of finite resources and to consider future dedicated funding to achieve the goals and objectives of the Structural Fire Program.

There has been increased interest in developing and filling the position of Urban Interface Specialist on some of the national teams. This position, usually assigned within the Operations or Planning Section, is responsible for identification of potential and/or existing risks associated with fires occurring in or near the wildland/urban interface. Additionally, the Urban Interface Specialist is responsible for working with local public safety officials to develop risk protection plans. Plans developed provide for maximum integration of local resources and the Incident Management Team and it's resources.

The evaluation of the National Wildland/Urban Interface Fire Protection Program was completed and a report compiled. The consensus of the member agencies and key people interviewed is that the program has been successful in achieving the goals outlined in 1986. It is appropriate to refocus the efforts to ensure that the goals, strategies and direction are applicable to the 1990's. There is a need to identify audiences which heretofore have not been reached as targets for involvement. There is also a need to increase and intensify efforts of wildland fire prevention. Accordingly, the plan of work approved for 1994 includes; completion of the Firewise Landscaping project (videos, checklists and three workshops nationwide), awareness programs (local workshops, national news releases, public service announcements, training and public education), national information exchange; fire analysis and information coordination.

A NPS Fire Management Compendium was developed and distributed Servicewide to fire management staff in April. The compendium was developed to serve as a ready reference for wildland fire management related directives, memoranda and guidelines on various associated issues.

Dr. Rodney Norum completed a long and distinguished career in wildland fire management by retiring from the NPS Branch of Fire and Aviation Management in 1993. After receiving an engineering degree, Rod started his career working as an engineer in upstate New York. It didn't take long for Rod to "see the light" and accept a technician position at the USFS Fire Laboratory in Missoula. Recognizing his interest and potential, the Missoula staff encouraged and supported Rod in his pursuit of a doctoral degree in fire science. This opened the door for significant accomplishments in research burning conducted on the Flathead National Forest. During this time Rod provided considerable field verification on some of Rothermel's early work in fire behavior modeling. In the mid-1970's Norum relocated to the USFS experiment

station at the Northern Institute of Forestry, University of Alaska, Fairbanks. During this northern stint, he was able to make significant inroads into developing fire behavior prediction models that would work in the unique black spruce and associated moss/lichen plant communities. Norum was hired by the NPS in the mid-1980's as a Fire Management Specialist with the Branch of Fire Management located in Boise. Significant contributions were made to the Service in his role as technology transfer specialist encompassing research, fire effects, prescribed fire and smoke management. Even though Rod's talents were "harnessed" by the NPS, he continued to provide wide ranging assistance and benefits to cooperating wildland fire management agencies across the continent through his participation on numerous work and advisory groups, steering committees, and in the development and implementation of interagency training curricula. Rod was honored by the interagency wildland fire community in March when he was presented the "Champion of Wilderness Prescribed Fires" award at the "Fire in Wilderness and Park Management Symposium" in Missoula, Montana. Dr. Gordon "Tom" Zimmerman, Fire Management Officer in the NPS Rocky Mountain Regional Office, was selected to fill the position left vacant as a result of Norum's retirement.

The Chief of the Branch of Fire and Aviation Management, Elmer Hurd, was selected as Chairman of the National Wildfire Coordinating Group (NWCG).

Two additional NPS individuals (Bryan Swift, Lassen Volcanic National Park and Steve Frye, Glacier National Park) were added to the S-520/620 (Advanced Incident Management/Area Command) steering committee. The NPS now has a plurality of members on that steering committee.

Two new Administrative Payment Team leaders were selected in 1993 - Susan Early of the Alaska Regional Office and Rudie Maez of the Southwest Regional Office.

Three noteworthy changes occurred in Boise during 1993; the first of which was a name change for the Boise Interagency Fire Center (BIFC) to the National Interagency Fire Center (NIFC) at Boise. The National Weather Service moved into a newly constructed administrative building on the base. And in April, construction of a new NIFC interagency administrative building began in the area previously used for office trailers, the smoke jumper exercise field and for staging firefighters. Movement into the new building will occur in May or early June 1994. The new building will accommodate all of the NPS, USFWS, BIA and USFS national level fire and aviation management staff, the NIFC fire management staff of the BLM and the logistics/coordination center operation. The BLM's national level fire and aviation management, law enforcement and training staff will occupy the old administrative building. All NIFC telephone numbers will begin changing in early 1994 and continue as the various agencies move into the new building.

Alaska Region

Fire suppression and planning in Alaska is accomplished through interagency agreements and work groups. In lieu of each land manager developing large,

individual suppression organizations, the Department of Interior bureaus combined suppression responsibilities into one organization; the Alaska Fire Service. Other suppression providers include the Alaska-Department of Forestry and U.S. Forest Service.

The 1993 fire season was a successful test year for the new consolidated Alaska Interagency Fire Management Plan. This plan was the culmination of a 2-year planning project that combined 13 fire management planning areas into one overall plan for the entire State (approximately 375,000,000 acres). This landmark project was accomplished by an interagency fire planning team chaired by NPS Prescribed Fire Specialist Brad Cella.

One measure of success for this plan was the number of fires and acres burned and a minimal need for suppression resources from the "Lower 48." A normal boost of smokejumpers for interagency/ statewide suppression support was ordered. The NPS brought Phil Perkins, Yellowstone National Park Fire Management Officer (FMO) and Bill Gabbert, Indiana Dunes National Lakeshore FMO, to Alaska to assist with 13 fires at Yukon-Charley Rivers National Preserve.

After completion of Gabbert's 21-day fire assignment his stay was extended so he could serve as the Plans Section Chief for NPS response to the Yorktown Clipper Incident at Glacier Bay National Park/Preserve. This incident involved a cruise ship that collided with a submerged rock, creating a fuel spill threat.

A Department of the Interior (DOI) funded fire research project to study the implications for fire management practices on carbon flux in tundra is managed by the Alaska Region. In 1993 a total of 15 sample sites were installed for 24 hour sampling of carbon flux throughout the growing season. Analysis of data is ongoing and will be completed on schedule in 1994. DOI oversight on the project is provided by Brad Cella, with park coordination provided by Rich Harris, Bering Land Bridge National Preserve, Resource Management Specialist. Dr. Walter Oechel from San Diego State University, an international expert in this field, is the principle investigator.

Alaska Region has equipped its contract aircraft with Global Positioning System (GPS) equipment. As a result, 1993 was the first year to map fire perimeters, especially large fires, in NPS units using this technology. Digital location data was automatically recorded then directly down-loaded into park Geographic Information Systems (GIS) fire history data base with increased accuracy and time savings. This technique is now standard operating procedure in Alaska.

Another long term goal for Alaska park lands was completed in 1993 with the collection and organization of all historical fire records since 1957 for fires within, and adjacent to, all 15 park areas comprising 54 million acres. Since a majority of NPS units in Alaska were established in 1980, the fire records had to be researched in agencies that previously managed these lands. John Christopher, a temporary Archeologist assigned part time to Fire Management, lead this project. He is currently working with the Alaska Fire

Service fire records database to electronically transfer missing records to the NPS WFMCS. John is also finishing entry of fire related data themes for park and region GIS data bases.

The Region's GIS program continues to make progress completing land cover maps for the FIREPRO parks. Land cover maps for Yukon-Charley Rivers National Preserve, Cape Krusenstern National Monument and Kobuk Valley National Park are complete with Gates of the Arctic National Park/Preserve mapping near completion. Classification is scheduled to begin on Bering Land Bridge National Preserve and Noatak River National Preserve. Imagery problems with Wrangell-St. Elias National Park/Preserve, Denali National Park /Preserve and Lake Clark National Park/Preserve need to be resolved before mapping can be completed.

Alaska Region welcomes Wanda Grey as our first Fire Program Assistant. Wanda was formally a Zone Fire Management Officer for the U.S. Forest Service in Montana. With 13 years of fire background she brings many fire management skills to Alaska.

Mid-Atlantic Region

Training continued to be a high priority in 1993 for Mid-Atlantic Region. Two separate academies targeted at developing Single Resource Crew Bosses were jointly sponsored with North Atlantic and National Capital Regions. Courses covered included Fire Business Management (S-260), Air Operations (S-270, S-217 and I-272), Firing Techniques (S-234), the basic Crew Boss Course (S-230), and the new Fire Behavior Course (S-290).

Mid-Atlantic also hosted an academy to develop individuals in overhead positions in the finance section. Participants from all ten NPS regions participated including both those from administrative positions and those in the servicewide overhead development program. This should help dramatically in providing qualified individuals in positions that are in short supply throughout the interagency fire community.

The region also hosted a Fire Suppression Tactics (S-336) course at Shenandoah National Park. Delaware Water Gap National Recreation Area hosted several "skills" related courses including Portable Pumps/ Water Supply (S-211), Wildfire Powersaws (S-212), and a Class "A" Foam Workshop. Delaware Water Gap National Recreation Area also hosted a fire behavior (S-290) course.

Mechanical fuel reduction was performed at New River Gorge National River, Appomattox Courthouse National Historic Park, and Delaware Water Gap National Recreation Area. Prescribed burn plans were developed at Delaware Water Gap National Recreation Area but were not implemented due to a lack of an adequate "prescription window." Preliminary planning for management ignited fires was conducted at Fredericksburg/Spotsylvania National Military Park, Richmond National Battlefield, and Assateague National Seashore.

A number of personnel actions took place in 1993. Pat Boucher, from Fredericksburg/Spotsylvania National

Military Park was hired as the Regional Fire Program Assistant. Doug Raeburn, formerly of Apostle Islands National Lakeshore, replaced Len Dems as the Fire Management Officer at Shenandoah National Park. April Porth transferred from an administrative position to Fire Program Clerk at Delaware Water Gap National Recreation Area.

Midwest Region

Voyaguers hosted four Russian wildland fire specialists for two days, giving them a tour of prescribed burn units and exposing them to National Park Service fire management. The park also hosted a meeting of the NWCG Prescribed Fire and Fire Effects Working Team and gave them a tour of prescribed burn units also.

Isle Royale initiated its first hazard fuel reduction project at Rock Harbor, its major visitor use accommodation complex, completing 80 percent before running out of funds. It will be completed next season.

Isle Royale continued working on a park-wide fuel loading survey initiated last year, which is being completed in conjunction with vegetation surveys to complete a new vegetation map for the park. Eventually, the vegetation map will be used to create a new fuels map using the park's GIS program. It operates in the GRASS program and provides real-time rate of spread information based on basic fire weather, topographic, and fuels/vegetation information.

Indiana Dunes continued their multi-year hazard fuel project design to reduce high fuel loading levels in the urban interface surrounding the Ogden Dunes community. Cutting and brush pile burning was done this year and a prescribed burn is planned for the spring of 1994.

Indiana Dunes' Fire Management Officer assisted in training Type II All-Risk Incident Management Teams for both the North Atlantic Region in the spring, and the Midwest/Rocky Mountain Regions' combined team during the summer. He also received I-420 Instructor Handoff Training and the INCINET Training Specialist Handoff.

Ozark transitioned to a new fire management officer (Jim Desmond) in the fall. The park completed a major revision of its fire management plan to expand its prescribed fire program.

WIMS was implemented, replacing AFFIRMS, but not without a lot of frustration. Five instructors were trained within the Region in both WIMS and NPS WFMCS to provide secondary training to parks within the Region. Ten parks received the secondary training this year, in addition to the four parks and Regional Office whom contributed the instructors.

North Atlantic Region

A Structural Fire Specialist was hired by the Region in July. This person will be assisting the parks in developing structural fire plans. Plans will use a methodology that integrates inventory, risk assessment, management issues and offers park managers an array of alternatives based on probability of success and implementation cost. This approach is designed to shift the emphasis from suppression to prevention and mitigation.

Selection of members for 2 Type II All-Risk Management Teams was made in April. In May team members went to Atlanta and received a week of training from the NPS Type I All-Risk Management Team. Individuals from these teams assisted parks with four incidents, including a visit by President Clinton to Roosevelt-Vanderbilt National Historic Site.

National Capital Region

Interagency cooperation continues to be a high priority. For the first time, the Region has a Memorandum of Understanding (MOU) with the State of Maryland. The MOU covers all parks in the Region and fire suppression activities on the Appalachian Trail (AT).

Actions were taken to improve the response capabilities of regional firefighters for fires occurring on the Appalachian Trail lands. A surplus slip-on pumper was acquired for the engine at Antietam and the park's cache was provided with additional tools and supplies for this effort. The engine will serve as one of three engines assigned primary response duties for fires occurring on the AT and to meet the region's zone commitments.

Regional Fire Management Officer Carl Douhan served as the Chairperson for the Northeast Area Geographic Board. During his tenure, a Type I Incident Management Team for the Northeast Area was formed.

The region continued in its efforts to develop wildland firefighters at the Crew Supervisor-Single Resource and Incident Commander Type IV levels. The three northeastern regions, Mid-Atlantic, North Atlantic, and National Capital, combined to present a 2-week training academy for crew supervisors. In addition, a peer development program has also been initiated which pairs experienced crew supervisors or level 1 firefighters with crew supervisor candidates to increase their knowledge of wildland fire suppression.

The Region hosted a 3-day long structural fire awareness seminar. Other courses presented included S-211 Pumps and S-212 Power Saws, I-220 Basic ICS, and S-130 and S-190 Basic Firefighter training.

Pacific Northwest Region

The Student Conservation Association (SCA) program is still being used in the fire programs at Mount Rainier and Olympic with 13 SCA firefighters assisting in hazard fuel reduction and as initial attack forces in the parks. Three members of the SCA crew at Mount Rainier were assigned to Cumberland Island National Seashore in the southeast for several weeks in order to assist with presuppression efforts.

Rocky Mountain Region

Regional staff participated in interagency coordination activities in three geographic area coordinating groups (Northern Rockies, Great Basin and Rocky Mountain). In the Great Basin Area, the Eastern Great Basin Coordination Center became fully operational this year. In the Northern Rockies Area, a Department of Interior Fire Operations Specialist position was implemented at the Aerial Fire Depot in Missoula, Montana. Funding for this

position is shared between NPS, BLM and BIA with the FTE and position support provided by BLM.

Regional and Park personnel participated in coordination and instruction in several interagency course offerings, including; S-336, S-330, I-420, Managing Fire Effects, RX-91 Instructor Handoff, National Park and Wilderness Fire Management and a Landscape Disturbance Workshop. Personnel also participated on numerous national and regional committees including; Incinet Development, FIREPRO Steering Committee, Interagency Helicopter Operations Guide Development Committee, Great Basin Business Working Committee, Great Basin and Rocky Mountain Fire Prevention Working Committees, Rocky Mountain Incident Management Team Oversight Committee, Wyoming Interagency Coordination Center Evaluation Committee, Rocky Mountain Area Incident Management Team Configuration Working Team, Great Basin Fire Operations Working Committee, Northern Rockies Equipment Working Committee, Rocky Mountain Area Fire and Aviation Training Committee, Rocky Mountain Area Prescribed Fire and Fire Effects Working Committee, Great Basin Fire and Aviation Working Committee, Northern Colorado, Southern Colorado and Northwest Colorado Interagency Dispatch Center Advisory Groups, Western Slope Fire Coordination Center Advisory Committee, Fire Management for Agency Administrators Steering Committee, Fire Effects Curriculum Development and Steering Committee, NWCG Snag Hazard Review Team, National Park and Wilderness Fire Management Steering Committee, Great Basin Buying Team Task Group and Utah Zone Fire Management Committee.

A Park Fire Management Meeting was held in Estes Park, Colorado in April and attended by all FMOs, Fire Program Assistants, and Fire Program Clerks. This meeting was held in conjunction with Rocky Mountain Area interagency meetings hosted by NPS. Meetings conducted at this time included; Rocky Mountain Coordinating Group spring meeting, Rocky Mountain Area Incident Management Team Meeting and individual agency meetings (NPS, FS, BLM, BIA and State agencies).

Personnel from this region filled various primary positions on Type 1 and 2 Incident Management Teams in the Northern Rockies, Great Basin and Rocky Mountain geographic areas. Special assistance was provided to non-fire emergencies including the Midwestern flood relief efforts. Personnel from the region also participated with the Federal Emergency Management Agency (FEMA) in support of a test of the Federal Response Plan during a major disaster simulation in Salt Lake City, Utah.

Bent's Old Fort National Historic Site in southeastern Colorado reinstituted management ignited prescribed burning to remove biomass accumulation and stimulate health of shortgrass prairie and wetland sites. With assistance provided by Rocky Mountain National Park, Forest Service (Comanche National Grasslands) and Department of Defense, a management ignited prescribed burn was successfully completed on approximately 250 acres of prairie, wetlands and cottonwood river bottom in March.

As a result of all-risk incident management activities in past year, the region, in cooperation with the Midwest Region, implemented a Type II All-Risk Incident Management Team program in 1993. Two teams with alternates were selected, organized and oriented through a training exercise. The teams were in place by mid-summer.

Southeast Region

The Southern Multi-Agency Coordinating Group comprised of the Regional Fire Management Officers from the U.S. Forest Service, U.S. Fish and Wildlife Service and National Park Service instructed their field units sharing common boundaries to discuss ways in which to consolidate fire resources, and to request funding to consolidate resources in their individual budget requests. To avoid duplication and to stretch training dollars, procedures were implemented by the three federal agencies to conduct an interagency training needs analysis. The fiscal year 1994 Southern Interagency Training Calendar was developed from an analysis of interagency training needs conducted in each state.

Regional NPS training funds were used to conduct the following courses; Finance Academy (I-363, 365 and 368), S-260, S-270 and S-234.

Due to the general lack of knowledge about the Incident Command System by personnel that responded to the 1992 Hurricane Andrew relief effort in South Florida, a video tape of the slide program associated with the I-220 Basic ICS course was copied and distributed to all parks within the Southeast Region. Field units were instructed to make the video available to all unit personnel so they will have some knowledge of the command organization before they are dispatched to all-risk incidents.

Lessons learned from Hurricane Andrew allowed for the development of Preparedness Levels and corresponding actions for response to hurricanes by the Regional Office. The plan was initiated for Hurricane Emily as it approached Cape Hatteras in early September.

Two Type II NPS Southeast Region All-Risk Incident Management Teams were organized and trained along with two NPS teams from the North Atlantic Region. The teams are available for special events and all-risk incidents, in addition to wildland fire suppression.

FIREPRO expenditure audits and fire program reviews were conducted at Great Smoky Mountains, Natchez Trace, Big Cypress and Blue Ridge Parkway.

With assistance from Tom Zimmerman, Fire Management Specialist at the NPS Branch of Fire and Aviation Management, a draftt fire management plan that provides for management ignited and prescribed natural fire was completed for Cumberland Island.

Joe Kelley vacated the NPS Emergency Services Coordinator (Assistant Coordinator) position at the Southern Area Coordination Center (SACC) to accept the Unit Manager position at Obed Wild and Scenic River. Frank Graham replaced Kelley at SACC.

Southwest Region

The Region hosted a logistics academy in Albuquerque the first week of March and provided assistance in a joint effort to conduct I-420 in Baldrock, Kentucky. The Region also hosted the annual fall Southwest Fire Council's meeting which was held in Santa Fe. A total of 20 parks within the Region received software and training on the new WIMS which replaced AFFIRMS. Training on the WFMCS was successfully conducted at Big Bend, Big Thicket, Wupatki, Sunset Crater Volcano, Walnut Canyon and Padre Island by Karla Rocha from El Malpais.

Fire program reviews were conducted at Fort Smith, Fort Union, Lyndon B. Johnson, Padre Island, Pea Ridge, Salinas Pueblo Missions, Petroglyphs, Walnut Canyon, Wupatki and Sunset Crater. FIREPRO financial program audits were completed for Bandelier and Big Thicket.

Regional and park personnel participated on several national and regional committees including; InciNet Development; Southwest Area Dispatch Steering Committee, Southwest Area Training Committee and Southwest Fire Council.

Two significant personnel changes occurred as Carla Britton replaced Beth Gale as the region's dispatcher at the Southwest Coordination center and Janet Valen accepted the fire program clerk position at Big Thicket.

Western Region

A high priority was placed on developing and updating Fire Management Plans. New or revised plans were approved for Golden Gate, Point Reyes, Lassen Volcanic and Whiskeytown. Redwood and Great Basin also made progress in developing their plans.

Early in the year, a number of wildland Servicewide fire training courses were sponsored and coordinated at the Marin Headlands Training Facility in Golden Gate National Recreation Area. These included Crew Boss, Light Engine Workshop and several ICS Planning Section courses. A two week Heavy Engine Academy was also sponsored at Bridgeport, California with the Bureau of Land Management. Fifty-seven trainees from throughout the Service (except Alaska) attended the various courses provided.

Purchase of new engines for Whiskeytown, Acadia and Grant-Kohrs was coordinated with the U.S. Forest Service along with the transfer of 17 surplus USFS engines to various parks throughout the Service. Each surplus unit was repainted, new radios installed, new sirens/light bars added, hose added and necessary repairs made before delivery to park areas.

The prescribed fire staff assisted in the development of a wilderness fire plan which coordinates prescribed natural fire management in Sierra, Sequoia and Inyo National Forests, with Yosemite and Sequoia-Kings Canyon National Parks. A common wilderness fire zone of four million acres is expected to result.

The prescribed fire program developed the new RX-92 course, Fire Monitoring for Program Managers. The course will be open to other regions and agencies to facilitate the exchange of information on fire monitoring methods and analysis, using the Western Region's Fire Monitoring Handbook as a case study. instruction will target both fire and resource managers in data collection methods and analytical techniques, encouraging the involvement of both groups in the use of the database and in the development of prescribed fire programs.

The fire effects program added 70 new plots this year, bringing the total number of plots to approximately 900. In addition, the 1993 postburn plot survey database is double the combined database for the last three years. This is because Western Region parks conducted a total of 57 hazard fuel reduction projects this year, more than in any other previous year.

A complete review of all park structural fire plans was conducted, with most plans being returned for revision and updating. Structural fire training courses were sponsored for Hawaii Volcanoes, Sequoia-Kings Canyon and Yosemite.

As the transition from Department of Defense to the National Park Service continues down the rocky road to completion, progress is being made to provide for the structural fire protection of the Presidio. An Assistant Chief Ranger for Public Safety is in place and working on the never-ending details of assuring appropriate levels of service. Position descriptions have been processed and will be filled in a timely manner. The most recent target date is April 1, 1994, for NPS to assume the structural fire responsibility. In addition to the personnel challenges, adequate facilities must be in place; the proper number and types of apparatus must be available and all of the support functions (dispatch, telephones, radios and clerical support) need to be in a state of readiness. This is a significant undertaking and a "first" for the National Park Service.

Table 1. Interagency Hotshot Crew Workload Distribution 1984 - 1993

Year	Number of Fires	% Time Wildfire Suppression	% Time Prescribed Fires	% Time Other Projects
1984[1]	55	53	10	14
1985[2]	42	65	5	13
1986	35	50	13	17
1987	35	63	4	15
1988	31	79	3	3
1989	32	68	10	6
1990	26	54	9	12
1991	30	51	5	20
1992	29	54	5	29
1993	22	51	14	13

The National Park Service presently manages 2 of 63 Interagency Hotshot Crews as part of its contribution to national interagency fire suppression resources. The crews' primary function is hot-line wildfire suppression. When not needed for suppression activities, the crews are able to make significant contributions on interagency prescribed fire operations and other physically demanding natural resource projects.

The National Park Service crews are assigned to duty stations at host parks. The Arrowhead crew is permanently based at Sequoia-Kings Canyon National Parks, and the Alpine crew became permanently based in 1993 at Rocky Mountain National Park.

In 1993, the Arrowhead crew project work included frontcountry trail maintenance, roadside brushing, building maintenance, fence rail/post splitting, and interpretive site construction in Sequoia-Kings Canyon National Parks. Rocky Mountain National Park was the beneficiary of 3,460 hours of project work, including trail maintenance, performed by the Alpine crew. An additional 763 hours involved a timber stand improvement thinning operation on USFS land which also had direct benefits for Rocky Mountain National Park by providing materials for fencing, and snowpoles for marking roadbeds; materials not easily acquired.

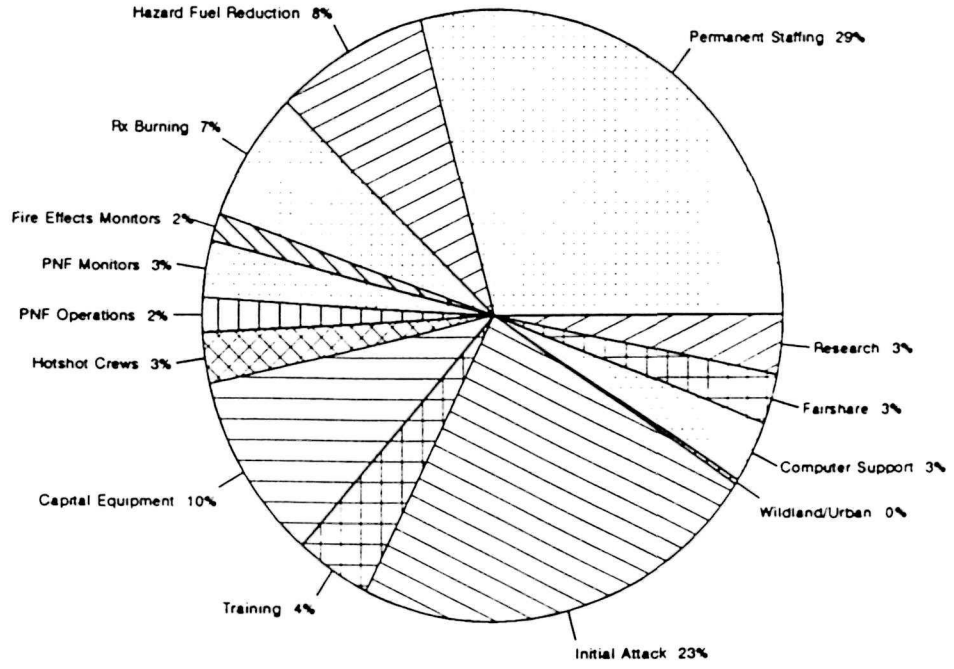
[1] 1984 statistics include 3 crews: Alpine; Arrowhead; and Bison.

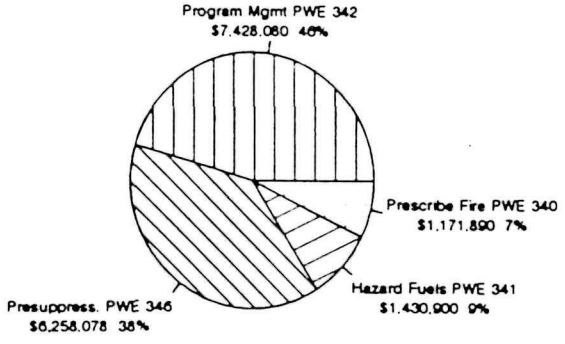
[2] Statistics beginning in 1985 include only 2 crews: Alpine and Arrowhead.

Table 2. Interagency Hotshot Crew Wildfire Assignments, 1993

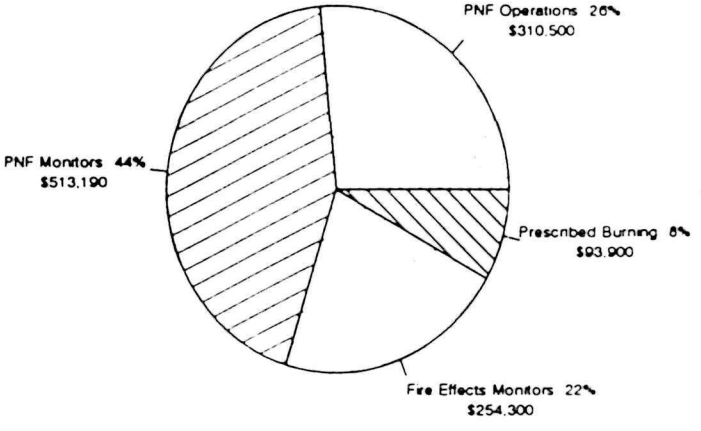
CREW NAME	FIRE NAME	LOCATION	DATES
Arrowhead	Metz	CDF/Monterey	6/10-12
	Cow	Sequoia NF	6/18
	Sycamore	CDF/Fresno	7/14-15
	Hacker	Sierra NF	7/20
	Edwards	Tonto NF	8/1-4
	Mesquite	Tonto NF	8/5-6
	Kern	Sequoia NF	8/12-14
	Gibbon	Sequoia NF	8/23-25
	Russia	Sequoia NF	8/30-31
	Deer Ridge	Sequoia NP	9/1-2
	LeConte	Kings Canyon NP	9/8-10
	Marre	Los Padres NF	9/26-10/8
	Kinneloa	Angeles NF	10/27-11/2
	Heliport	Kings Canyon NP	11/8-9
Alpine	Track	Kingman BLM	6/22
	Trick	Coconino NF	6/29-7/2
	South Lake	Pike-San Isabel NF	7/9-15
	Roatcap	Montrose BLM	8/2-5
	Big Bull	Craig BLM	8/13-15
	Wapiti Peak	Craig BLM	8/16-20
	Northwest III	Grand Canyon NP	9/23-30
	Flat Canyon	Manti-La Sal NF	10/2-8

Table 3. Fire Management Authorizations

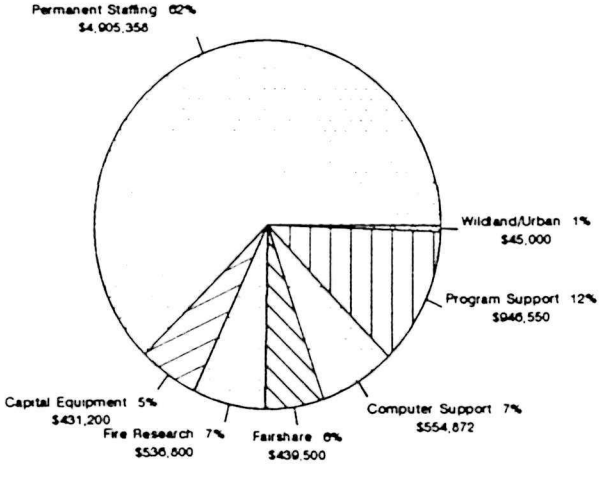




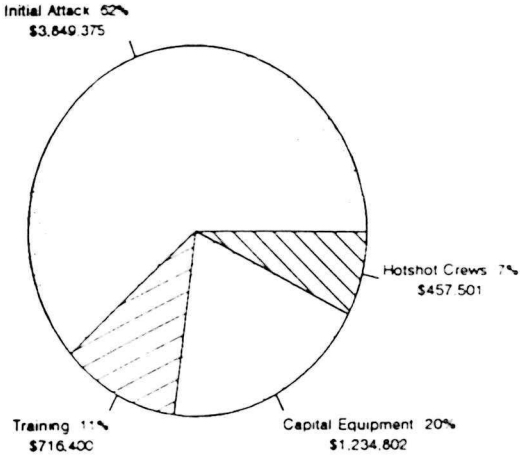
Presuppression and Program Management



PWE 340 - Prescribed Fire



PWE 342 - Program Management



PWE 346 - Presuppression

Table 4. Fire Severity Funding, Fiscal Year 1992

REGION	REQUESTOR	AMOUNT
Pacific Northwest	Olympic NP	36,300
	Mount Rainier NP	32,400
	North Cascades NP	7,400
	Coulee Dam NRA	10,600
	Regional Office	2,000
Rocky Mountain	Rocky Mountain NP	16,000
Southeast	Cumberland Island NS	91,400
Western	Sequoia-Kings Canyon NP	16,000

TOTAL APPROVED FUNDING: $212,100

Severity funding must be requested through the Regional Directorate, for approval by the Branch of Fire and Aviation Management, National Interagency Fire Center.

Severity funding is intended to increase initial attack preparedness and fire prevention response to an anticipated long term fire potential greater than the normal fire year. The severe fire potential may be the result of long term drought, unusual fuel conditions or other objective conditions.

Severity differs from step-up planning in that step-up plans are approved by the regional fire management officer; are driven by staffing classes which are determined by the burning index. Step-up plans are shorter term increases in preparedness and prevention.

Severity funds must be terminated as soon as conditions return to the normal fire year.

1993 - FIRE STATISTICS

Table 5. Interagency Fairshare Programs, Fiscal Year 1993

REGION	UNIT	REQUEST	AMOUNT
Pacific Northwest		Air Tanker Operations and Coordination Center	$61,900
Rocky Mountain		USFS: Northern Rockies; R-1/FIDC; RMACC. BLM: WSFCC/Colorado; WICC/Wyoming. DOI Position/Missoula.	$100,700
Rocky Mountain	Dinosaur	Uinta Basin Interagency Helicopter Contract	$5,000
Rocky Mountain	Grand Teton	Helicopter Contract	$41,411
Rocky Mountain	Wind Cave	Helicopter Contract	$6,700
Southeast		Helicopters, Southern Area Coordination Center, Regional Cache	$18,000
Southeast	Great Smoky Mountains	Interagency Air Tanker Base Operation	$21,000
Southwest		SWCC Overhead Operations	$4,500
Western		Coordination Centers (3), Air Tanker Operation (GRCA), Smoke Mgmt. Coordinator	$101,000
Western	Joshua Tree	Coordination Center	$3,000
Western	Redwoods	Aerial Recon. Contract and Lookout	$15,000
Western	Santa Monica Mtns	Los Padres NF Helicopter; Angeles NF Dispatch	$89,176
Western	Saguaro	Coronado NF Helicopter	$6,500
Branch of Fire & Aviation Mgmt.		Wildland/Urban Initiative, Smokey Bear Campaign, NARTC	$107,600
		TOTAL	$581,487

Table 6. NPS Normal Fire Year[1] Statistics

SIZE CLASS IN ACRES	NUMBER OF WILDFIRES	NUMBER OF PRESCRIBED NATURAL FIRES
A (0 - 0.2)	472	87
B (0.3 - 9.9)	255	30
C (10 - 99.9)	66	15
D (100 - 299.9)	23	9
E (300 - 999.9)	15	8
F (1000 - 4999.9)	10	3
G (5000+)	7	1
TOTAL	848	153

Start Days: 271
Peak number of starts in a day: 25

[1] The normal fire year calculation is based on an analysis of NPS fire history for ten years from 1984 through 1993. "Normal" occurrence is defined as the third worst year in a ten year analysis period, and the statistics for each size class may be derived from different years.

Table 7. National Fire Activity

FIRE TYPE	# FIRES	NPS ACRES
Suppressed on NPS lands by NPS full control strategy	482	18,537.2
Suppressed on NPS lands by NPS modified control	52	44,819.0
Suppressed on NPS lands by other federal agency	4	2.0
Suppressed on NPS lands by non-federal agency	94	523.0
TOTAL WILDFIRES	632	63,881.2
Prescribed natural fires	64	2,964
Management-ignited prescribed burns	208	49,146
TOTAL PRESCRIBED FIRES	272	52,110
NATURAL OUT ON NPS LANDS	136	1,316
MUTUAL AID BY NPS ON OTHER LANDS	195	5,569
SUPPORT ACTIONS (NON-LOCAL)	421	
FALSE ALARMS	92	

Table 8. Wildfires and Acres by Size Class

SIZE CLASS IN ACRES	AGENCY LANDS FIRES	AGENCY LANDS ACRES	OTHER LANDS FIRES	OTHER LANDS ACRES	ALL LANDS FIRES	ALL LANDS ACRES
A (0 - 0.2)	404	45.1	64	7.0	468	52.1
B (0.3 - 9.9)	154	275.9	86	172.5	240	448.4
C (10 - 99.9)	40	1,267.2	28	1,071.8	68	2,339.0
D (100 - 299.9)	13	2,017.0	12	2,008.0	25	4,025.0
E (300 - 999.9)	11	6,089.1	4	1,749.5	15	7,838.6
F (1,000 - 4,999.9)	6	11,607.7	1	2,085.0	7	13,692.7
G (5,000 +)	4	42,579.2	0	33,492.8	4	76,072.0
TOTAL	632	63,881.2	195	40,586.6	827	104,467.8

There were 632 wildfires reported on NPS land in 1993, which is 75% of the normal fire year calculation (Table 6). Approximately 88% of the wildfires were controlled at under 10 acres in total size. The only fire size classes that exceeded the agency norm were those ranging in excess of 1,000 acres.

Table 9 Wildfires by Cause

CAUSE	AGENCY LANDS # FIRES	AGENCY LANDS # ACRES	AGENCY LANDS % FIRES	AGENCY LANDS % ACRES
Lightning	164	45,384.8	26	71
Campfire	117	1,698.5	19	3
Smoking	40	15.2	6	0
Debris Burning	30	89.8	4	0
Incendiary	55	6,177.3	9	10
Equipment Use	32	557.4	5	1
Railroads	15	330.3	2	1
Children	23	5,701.9	4	8
Miscellaneous	156	3,926.0	25	6
TOTAL	632	63,881.2		

Table 10. Large Wildfires

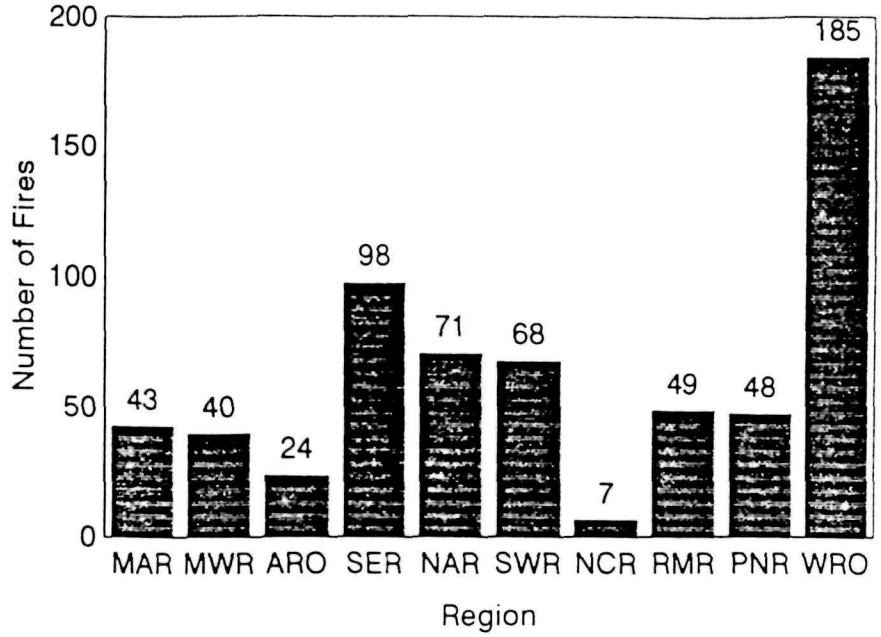
Region	Park	Fire Name	NPS Acres	Total Acres
Alaska	Denali	332663	3,200	3,200
		MHMSE36	10,200	10,200
		MHMSE16	2,200	2,200
	Yukon Charlie	CEMSE34	21,210	21,200
Southwest	Big Bend	Mayday	3,495	3,495
	Guadalupe Mtn.	Pine	5,669	6,510
	Lake Meredith	Plum	1,258	1,258
	Padre Island	25MileFire	1,250	1,250
Western	Grand Canyon	Northwest3	1,000	1,000
	Pinnacles	Metz	455	1,513
	Santa Monica Mtns.	Greenmeado	5,500	38,152

Table 11. Large Management Ignited Prescribed Burns

Region	Park	Fire Name	Acres	Fuel Type	Cost/Acre
Rocky Mountain	Badlands	Bigfoot	1,200	Grassland	5.09
Southeast	Big Cypress	Brownsleas	3,392	Sawgrass	1.36
		Deeplake N	9,145	Pine/grass	0.55
		Pinecrest	3,809	Pine/grass	1.26
		L.D. 2	4,806	Pine/grass	0.98
		L.D. 3 RX	7,331	Pine/grass	0.98
		LOST DOGR	1,050	Pine/Grass	0.98
		L.D. 4 RX	2,479	Pine/grass	0.98
Western	Sequoia-Kings	Buck Peak	2,170	Pine	24.88
	Santa Monica Mtns.	Cheesboro	1,000	Grassland	8.00

There were 208 management ignited prescribed burns completed during 1993 for a total of 49,146 acres treated. The largest burn program was conducted at Big Cypress National Preserve, where 15 management ignited prescribed fires treated 33,048 acres.

Table 12. Wildfires by Region



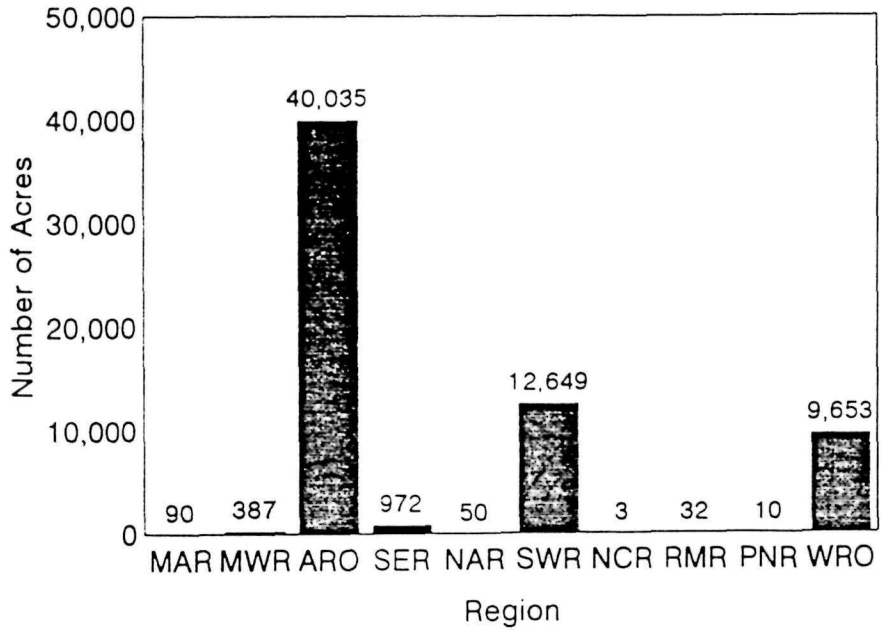
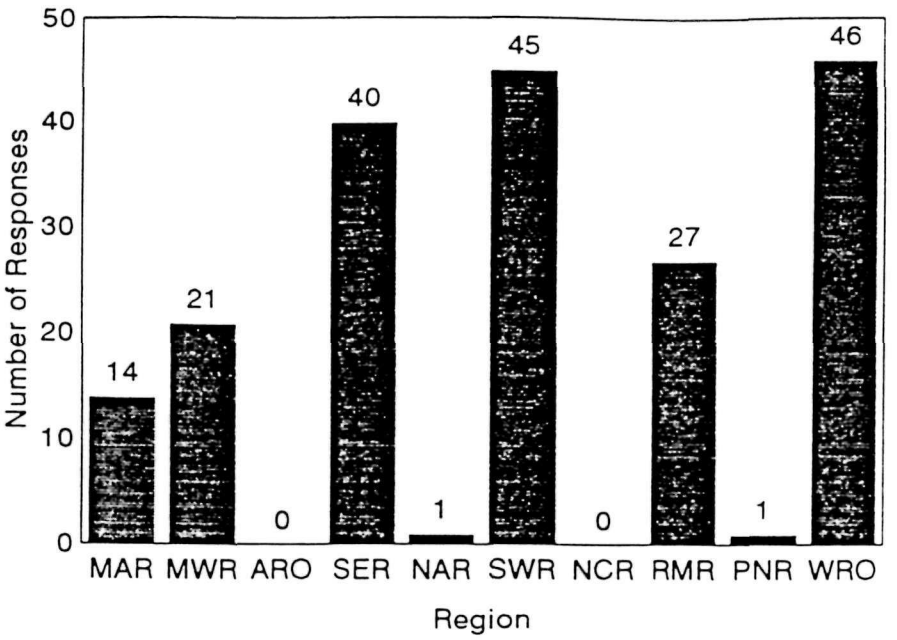


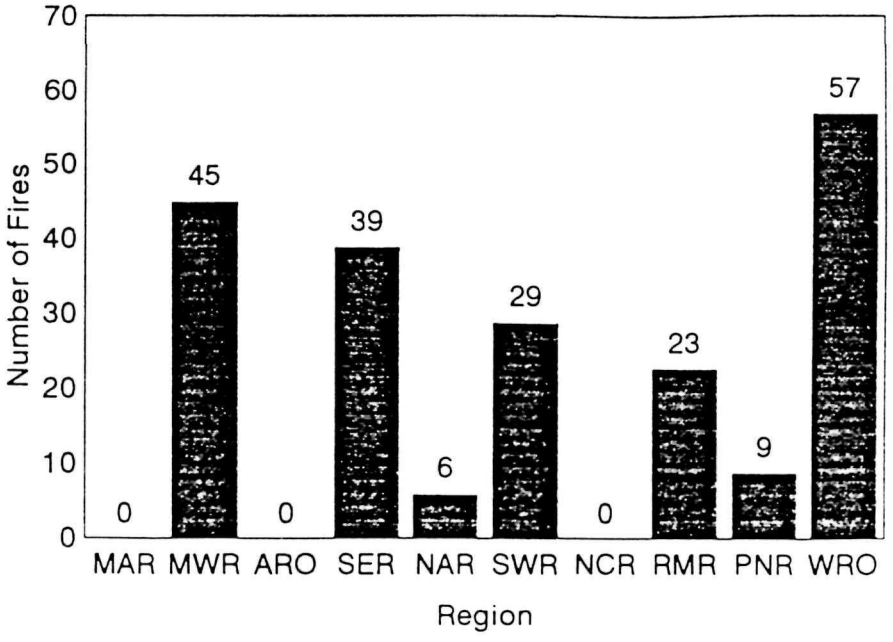
Table 13. Mutual Aid Responses by Region



KEY:

MAR - Mid-Atlantic Region
MWR - Midwest Region
ARO - Alaska Region
SER - Southeast Region
NAR - North Atlantic Region
SWR - Southwest Region
NCR - National Capital Region
RMR - Rocky Mountain Region
PNR - Pacific Northwest Region
WRO - Western Region

Table 14. Management Ignited Prescribed Burns by Region



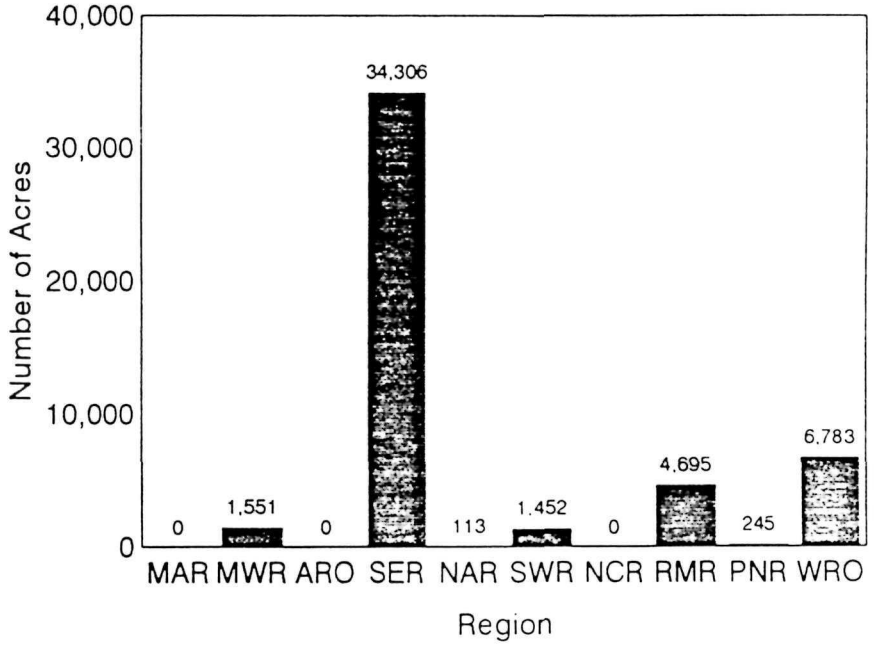
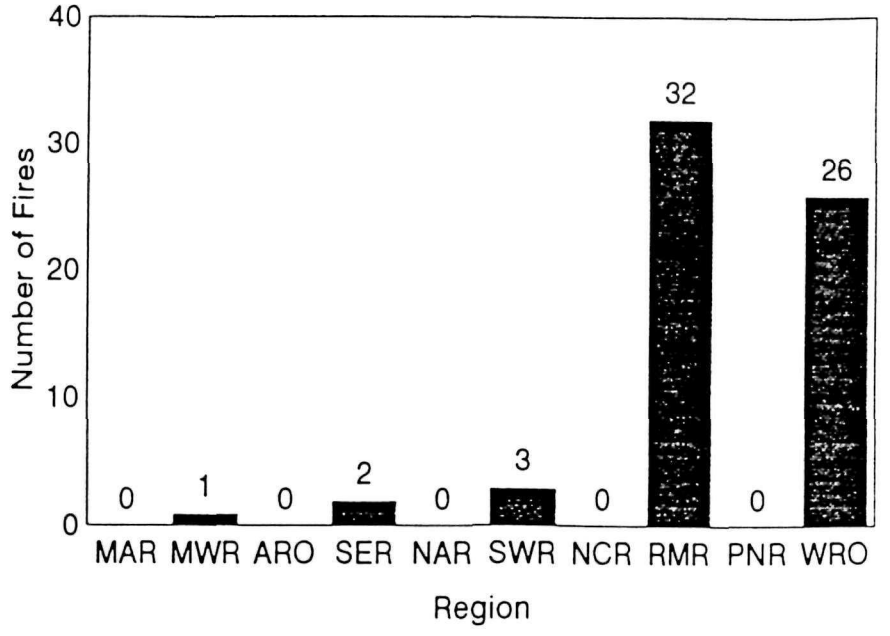


Table 15. Prescribed Natural Fires by Region



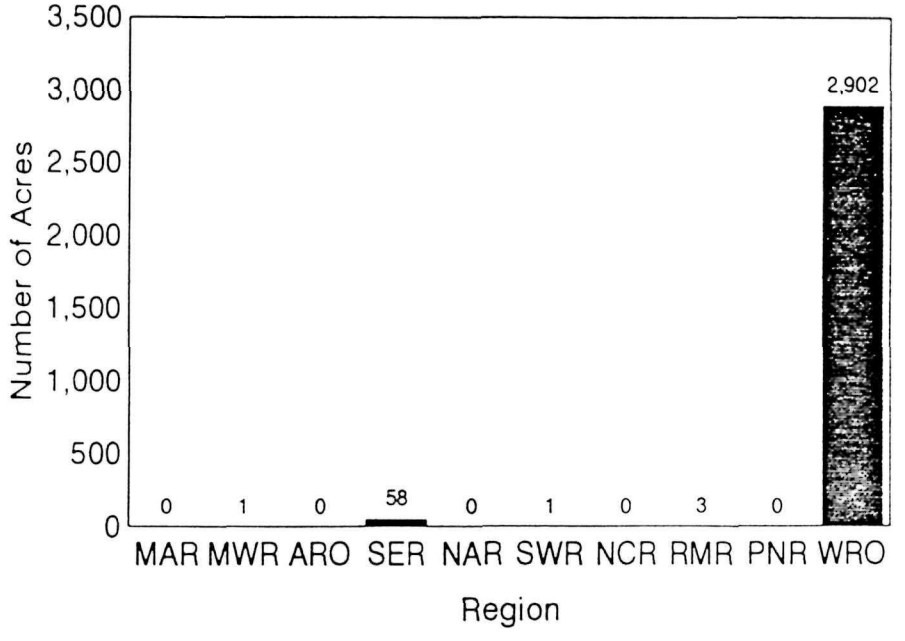


Table 16. Support Action Personnel by Region

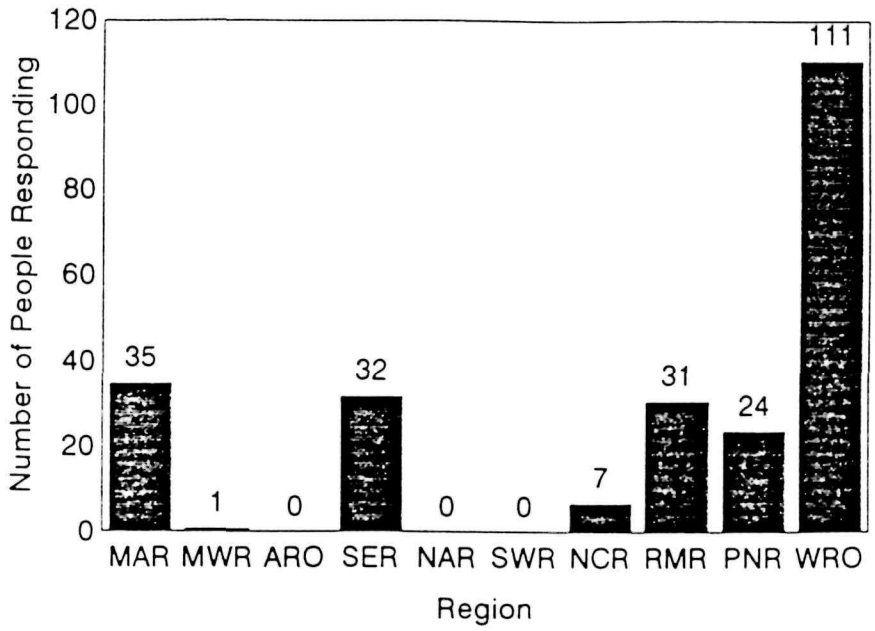
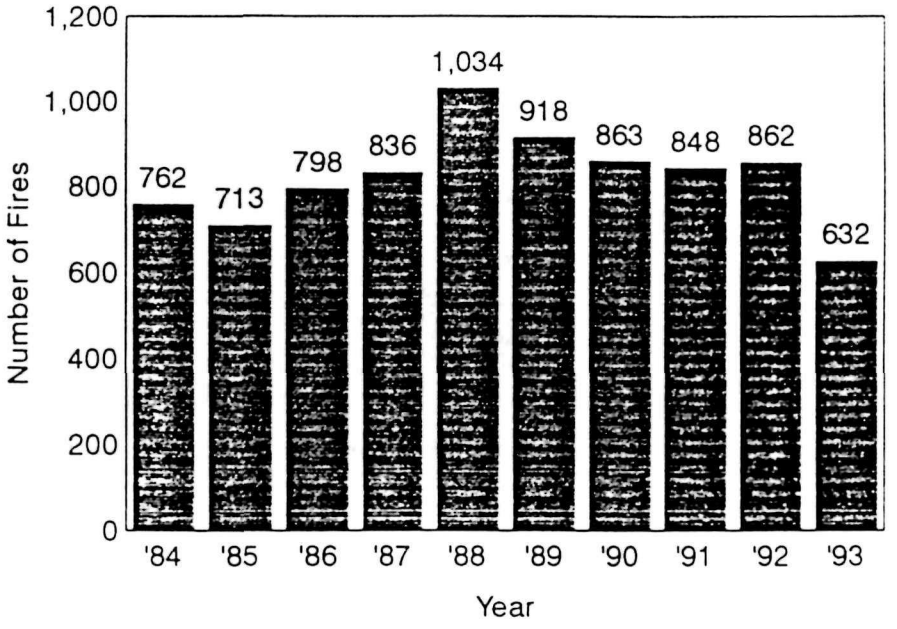


Table shows the maximum single-day commitment of people to interagency fire suppression in 1993.

1984 - 1993 FIRE STATISTICS

SERVICEWIDE

Table 17. NPS Wildfires, 1984 - 1993



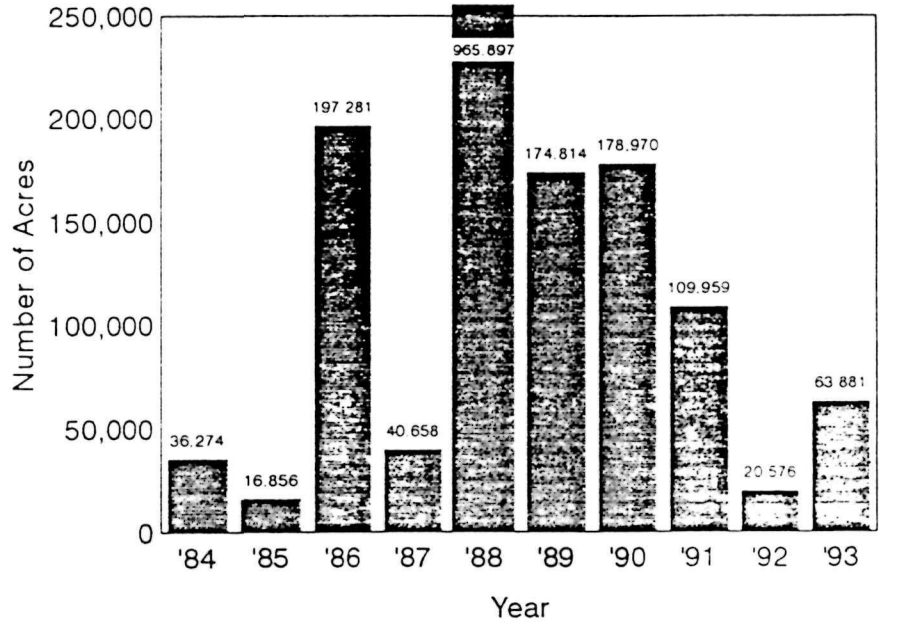


Table 18. NPS Mutual Aid Responses, 1984 - 1993

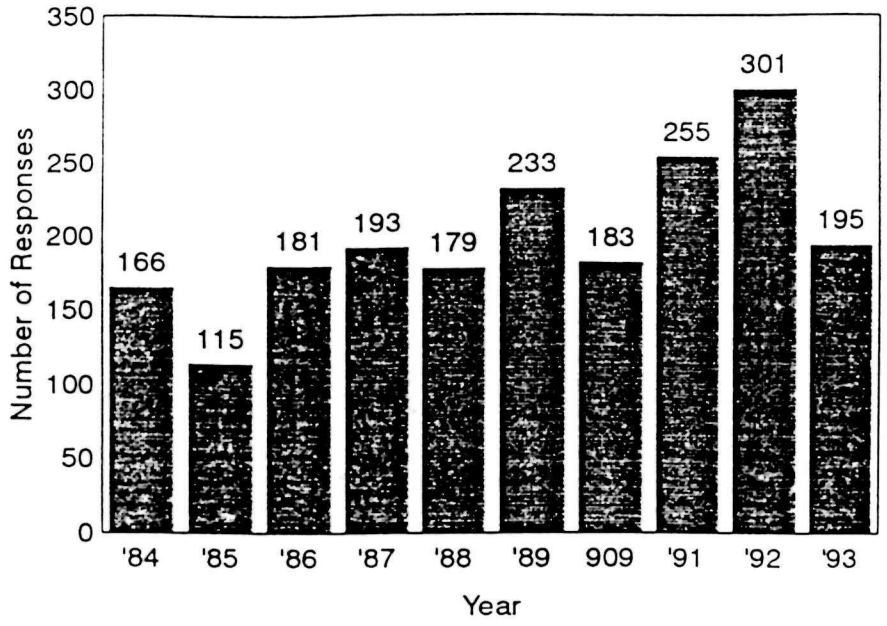
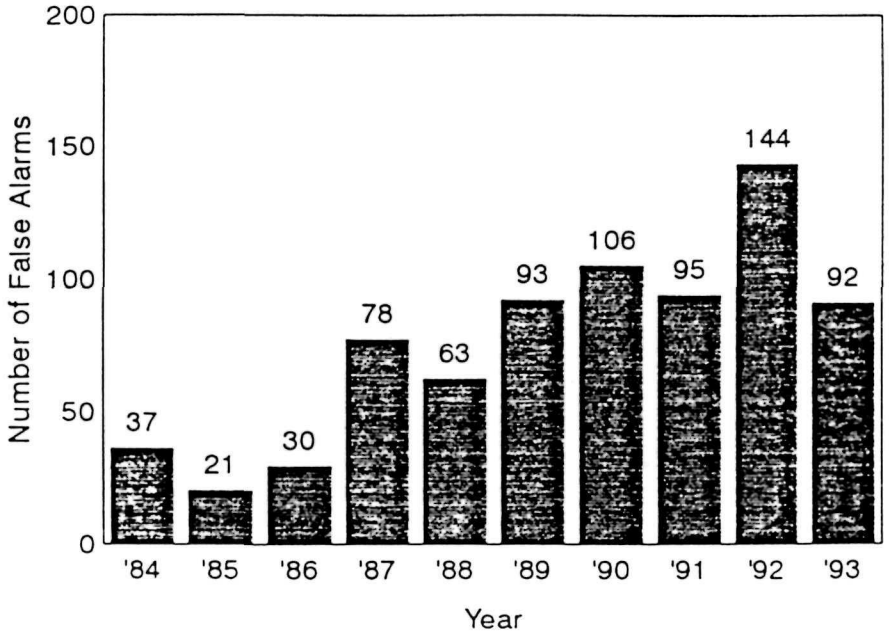


Table 19. NPS False Alarms, 1984 - 1993



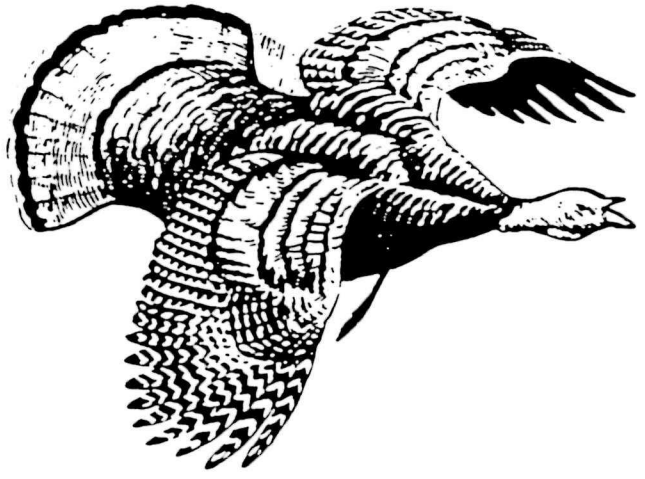
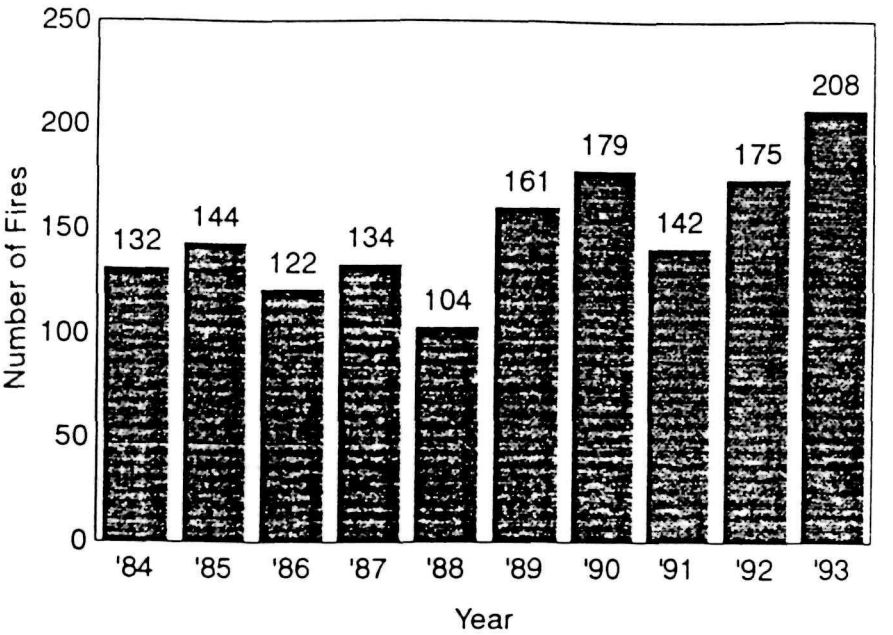


Table 20. NPS Management Ignited Prescribed Burns, 1984 - 1993



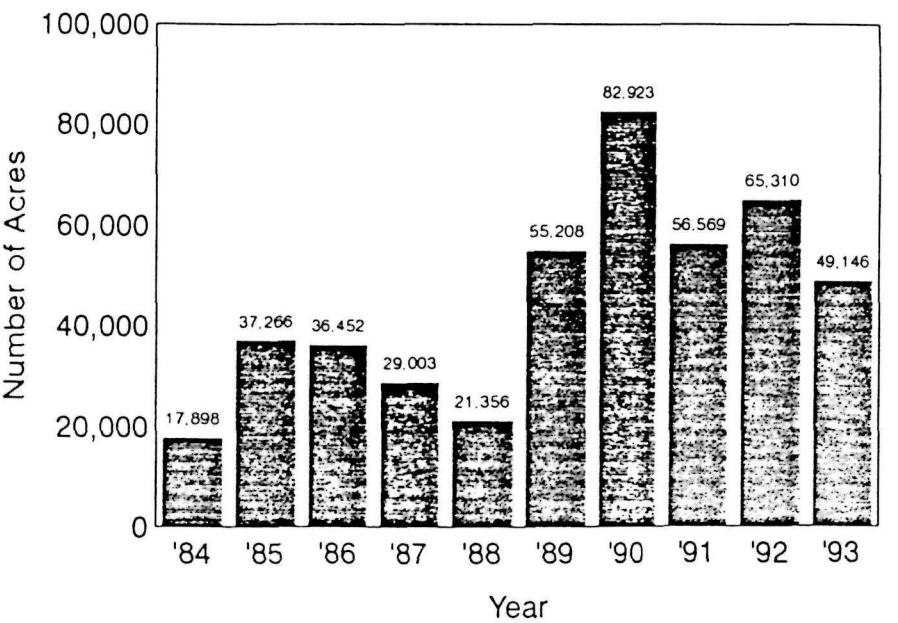
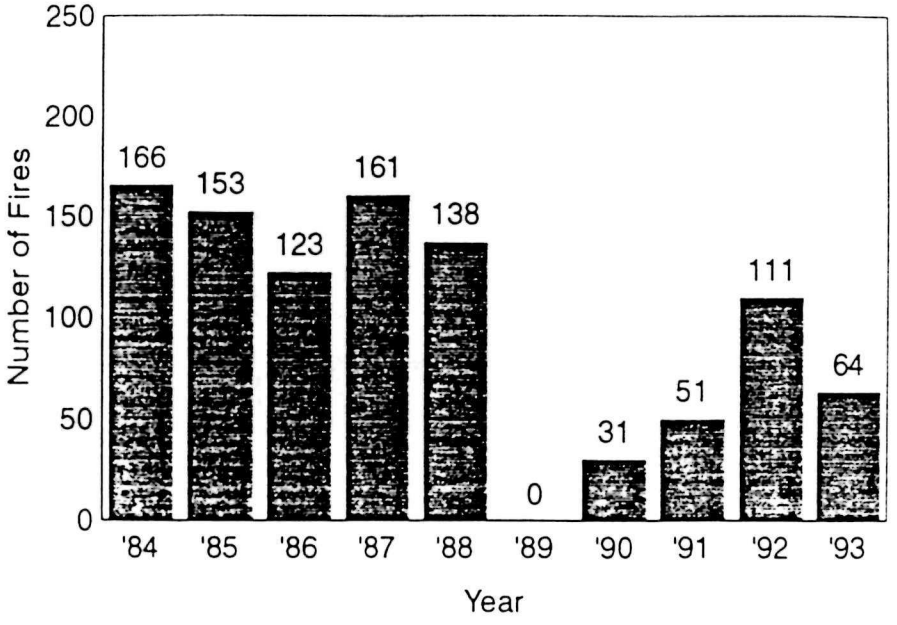


Table 21. NPS Prescribed Natural Fires, 1984 - 1993



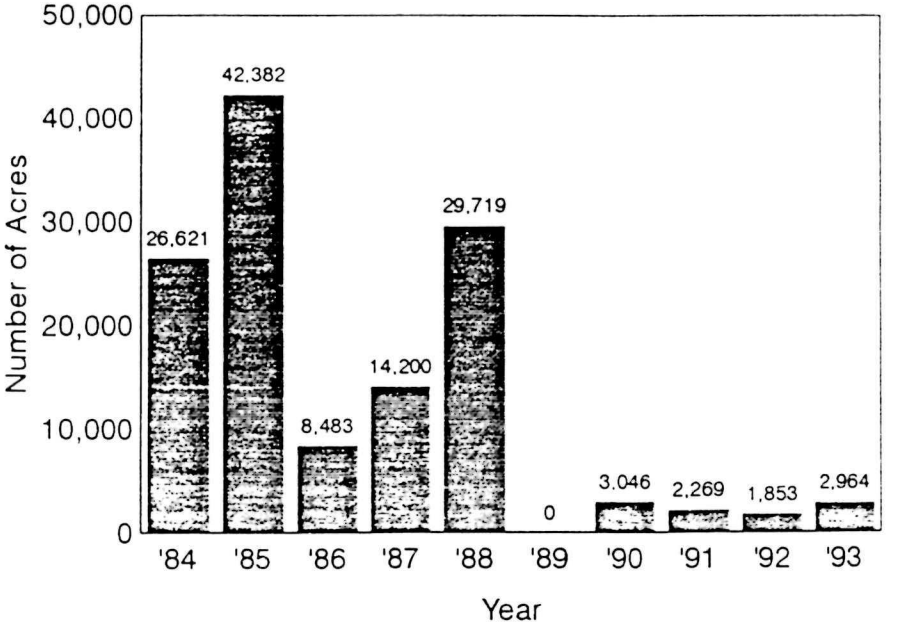
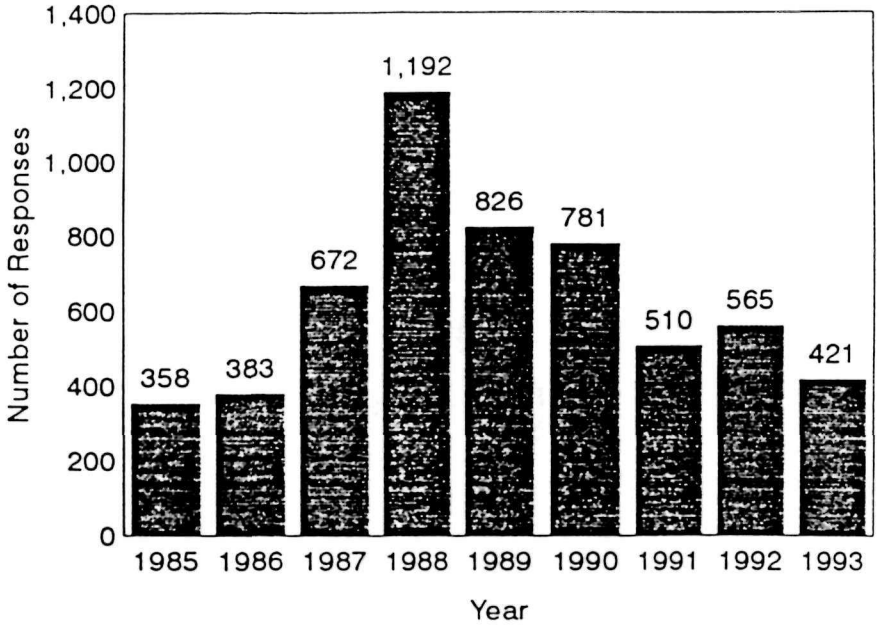


Table 22. NPS Support Actions, 1984 - 1993



Support actions are primarily wildfire suppression assists to non-local areas. They do not include local mutual aid responses. National mobilizations of National Park Service personnel for interagency wildfire suppression efforts were unheard of until 1985. Since that time many agency personnel, including those whose regular job assignments are not fire-related, have been trained and dispatched to fire assignments.

The above table displays the number of support action dispatches reported for the past nine years. The actual number of individuals dispatched is substantially greater. These figures do not include people who were involved in mutual aid or local suppression activities, or the people involved in fire-related support positions at their home units.

In addition to personnel, NPS helicopters, engines, and other equipment were used during mobilizations.

1984 - 1993 FIRE STATISTICS

BY REGIONS

National Park Service Regions

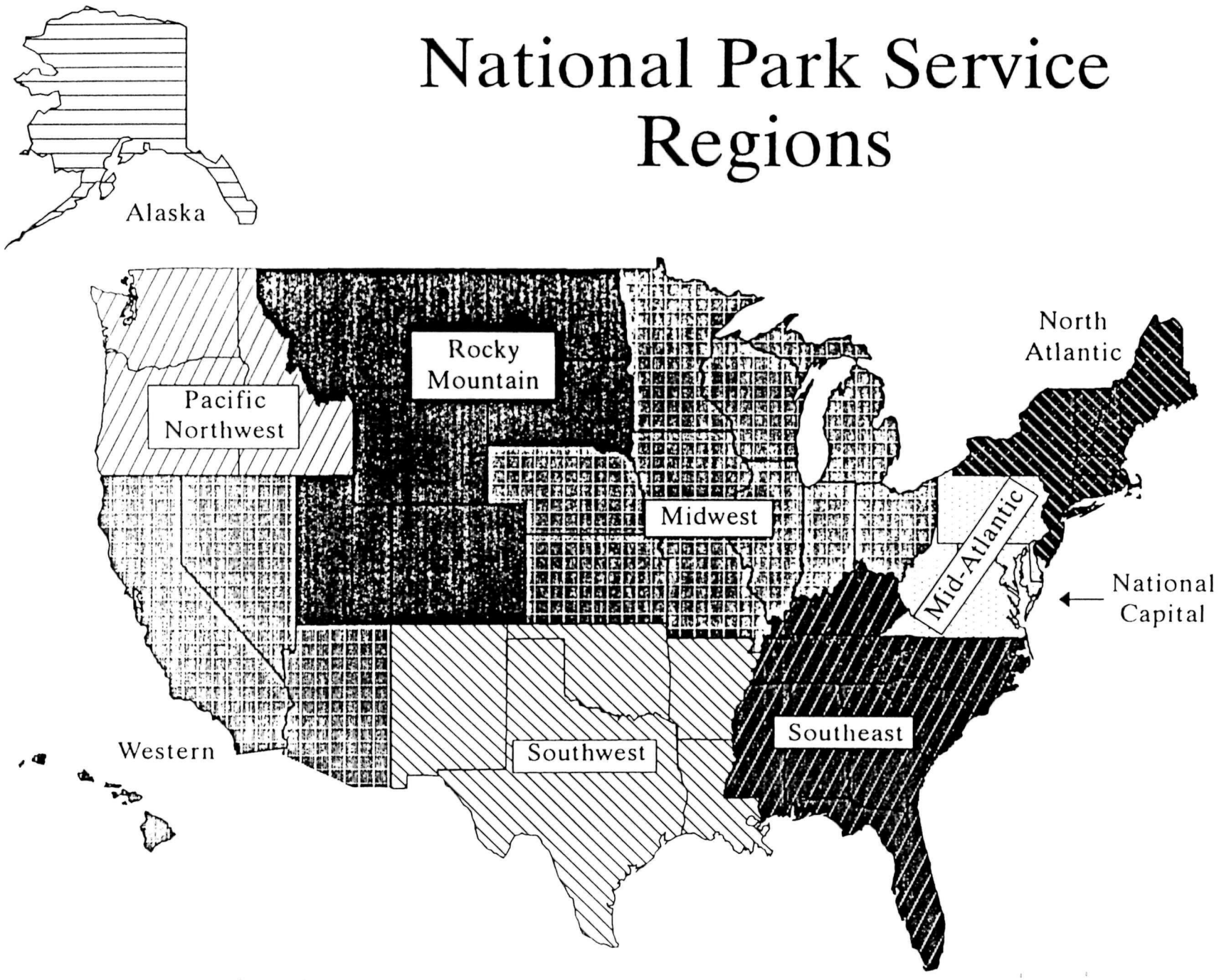
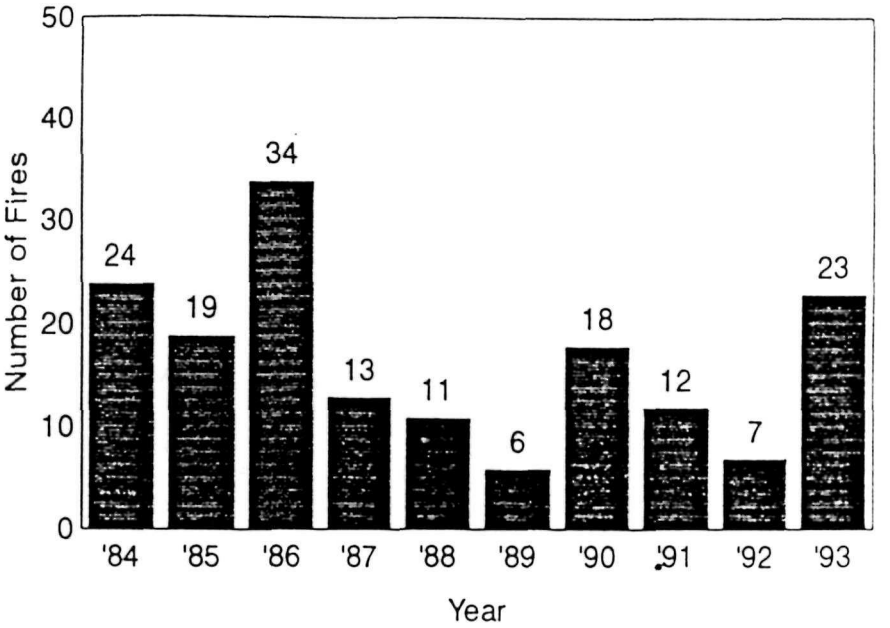


Table 23. Alaska Region Wildfires, 1984 - 1993



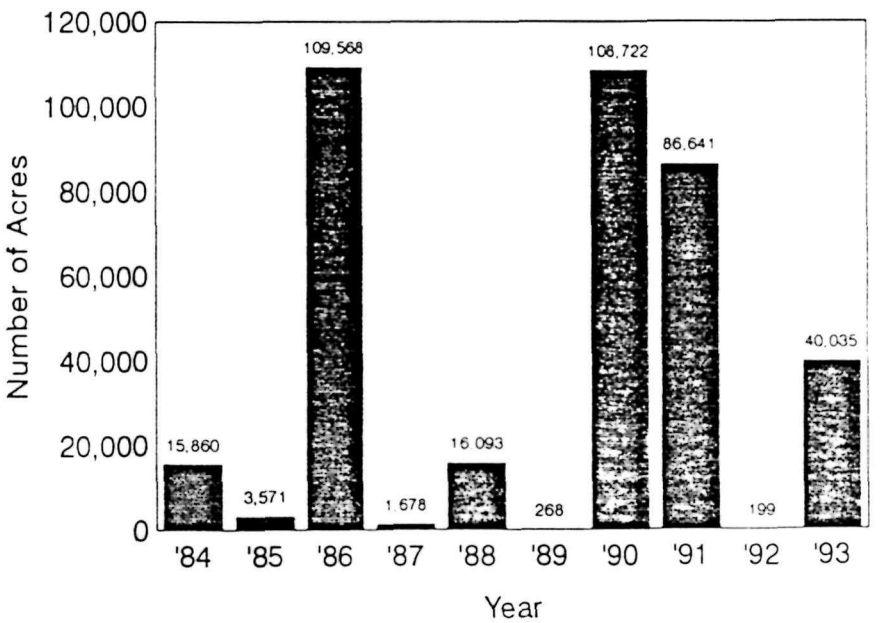
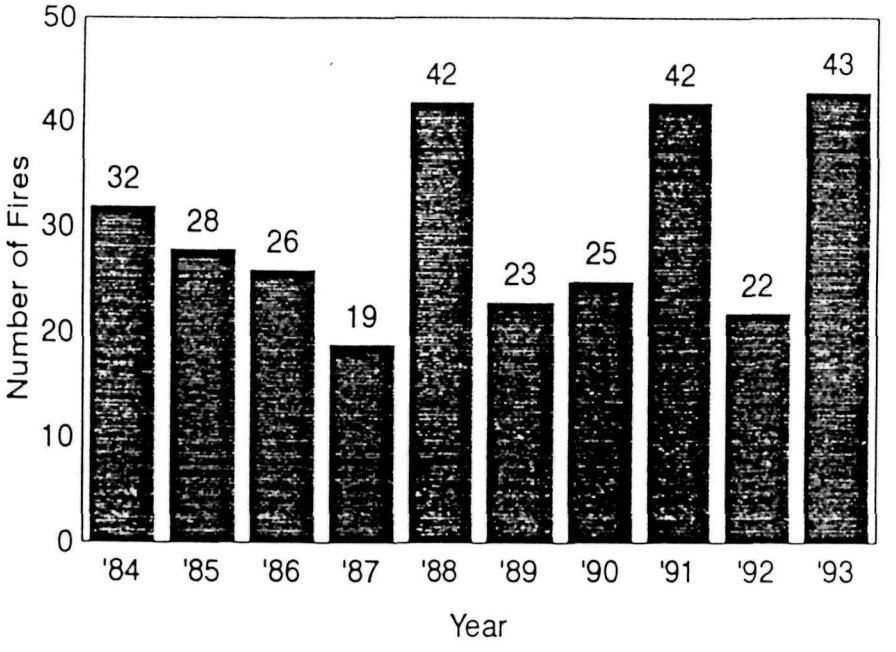


Table 24. Mid-Atlantic Region Wildfires, 1984 - 1993



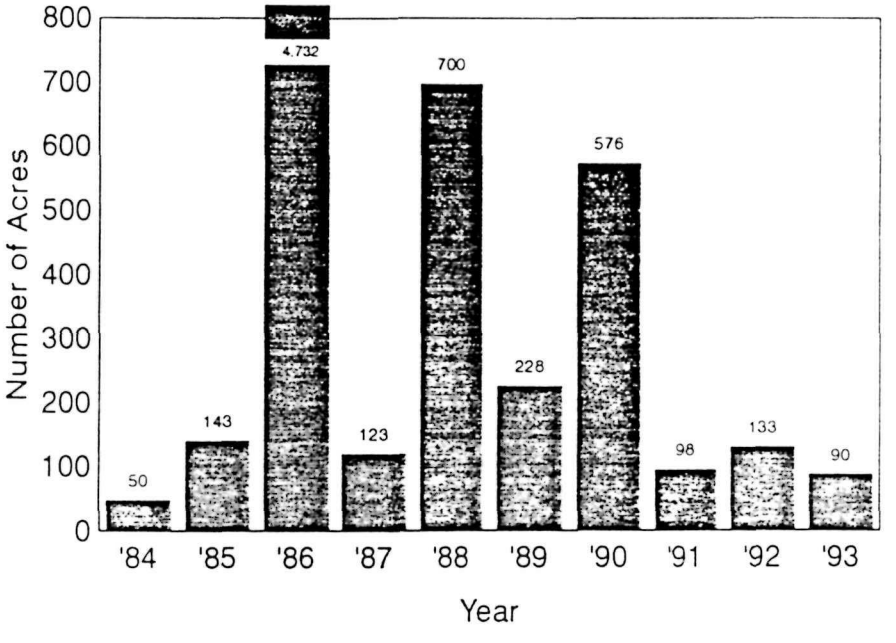


Table 25. Mid-Atlantic Region Mutual Aid Responses, 1984 - 1993

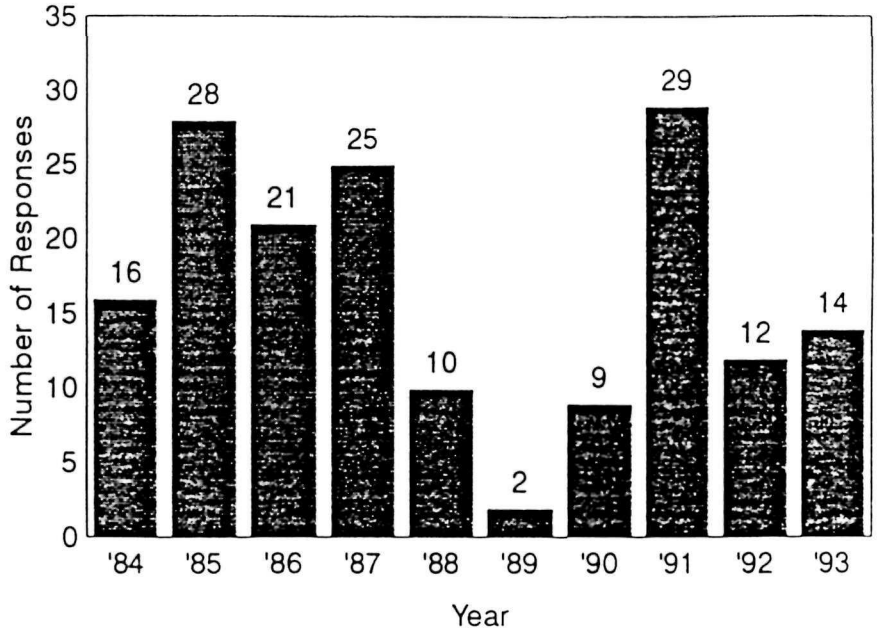
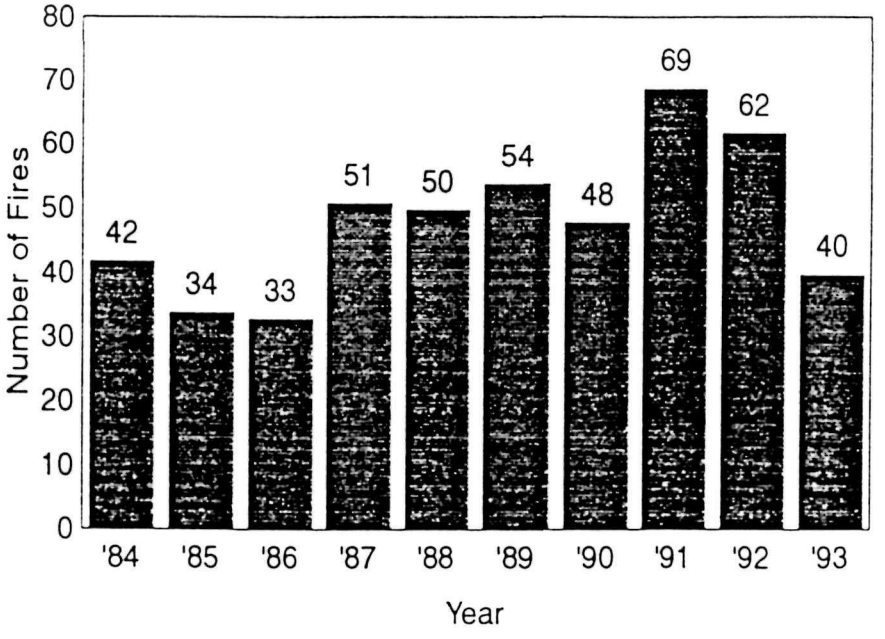


Table 26. Midwest Region Wildfires, 1984 - 1993



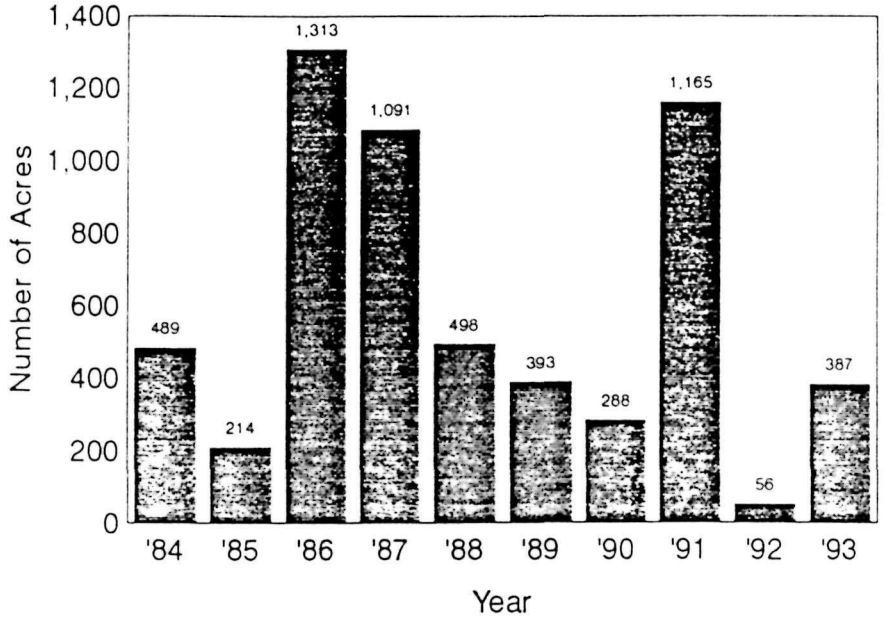


Table 27. Midwest Region Mutual Aid Responses, 1984 - 1993

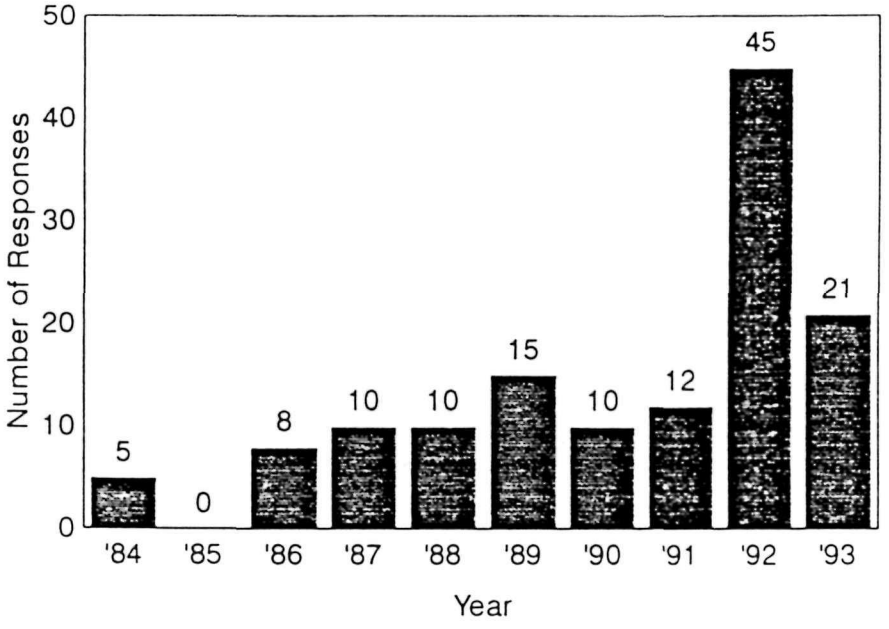
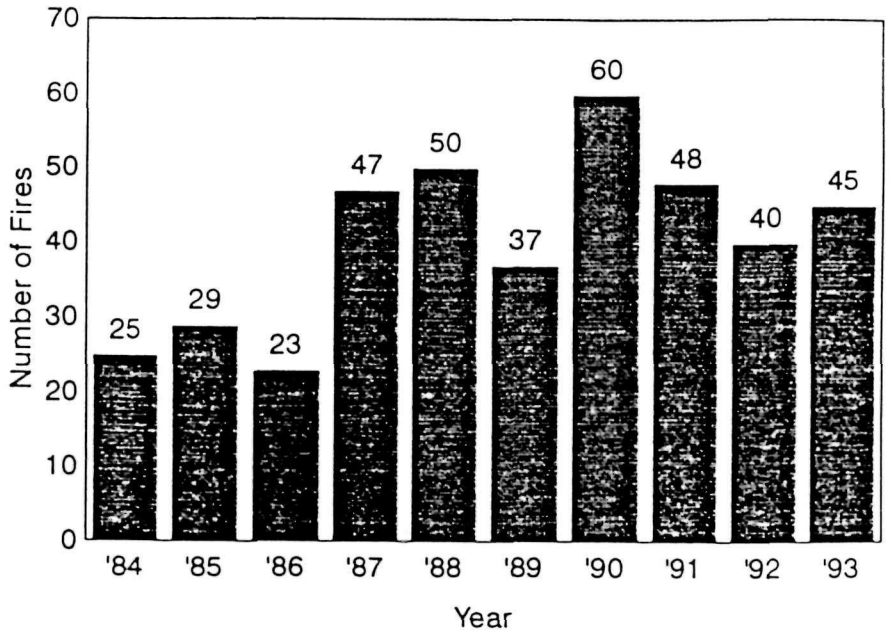


Table 28. Midwest Region Management Ignited Prescribed Burns, 1984 - 1993



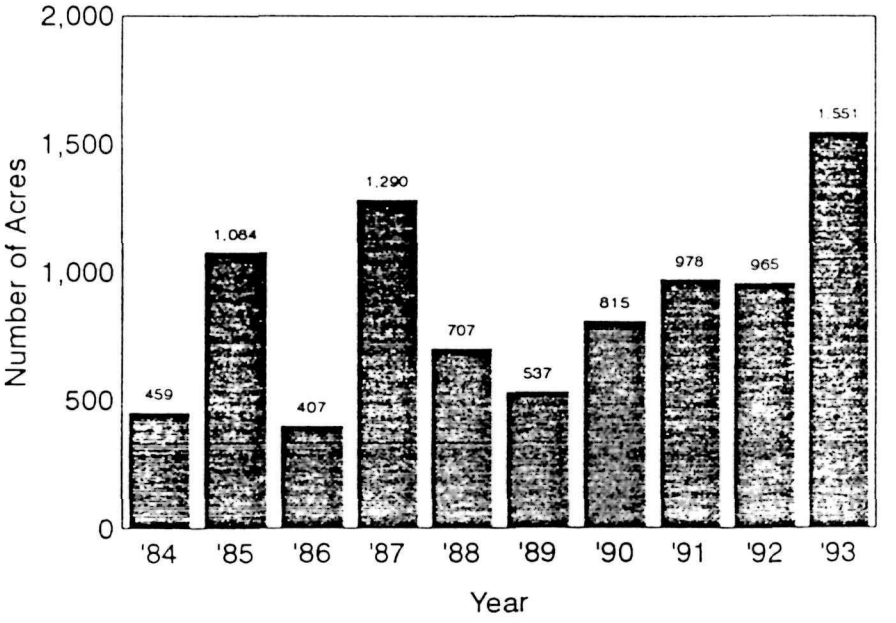
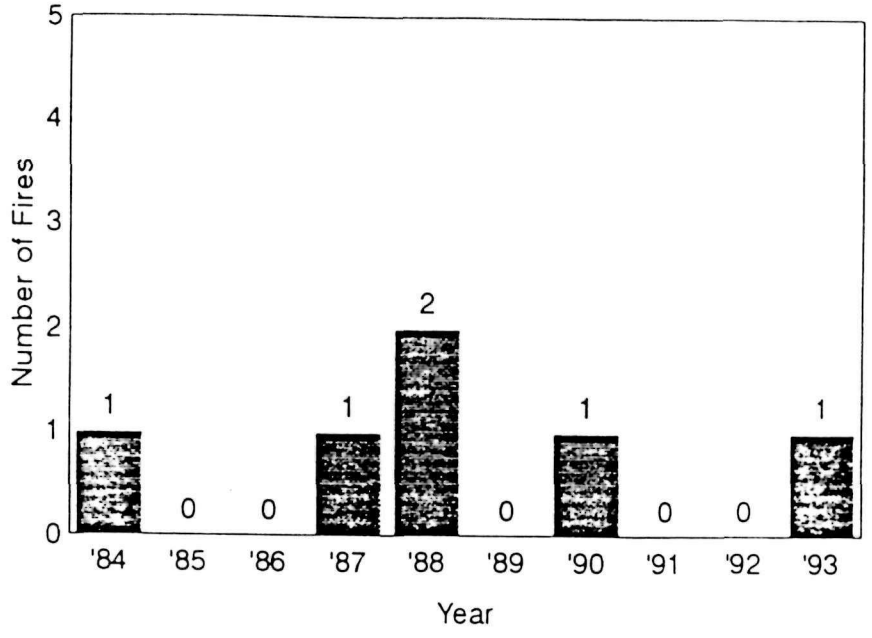


Table 29. Midwest Region Prescribed Natural Fires, 1984 - 1993



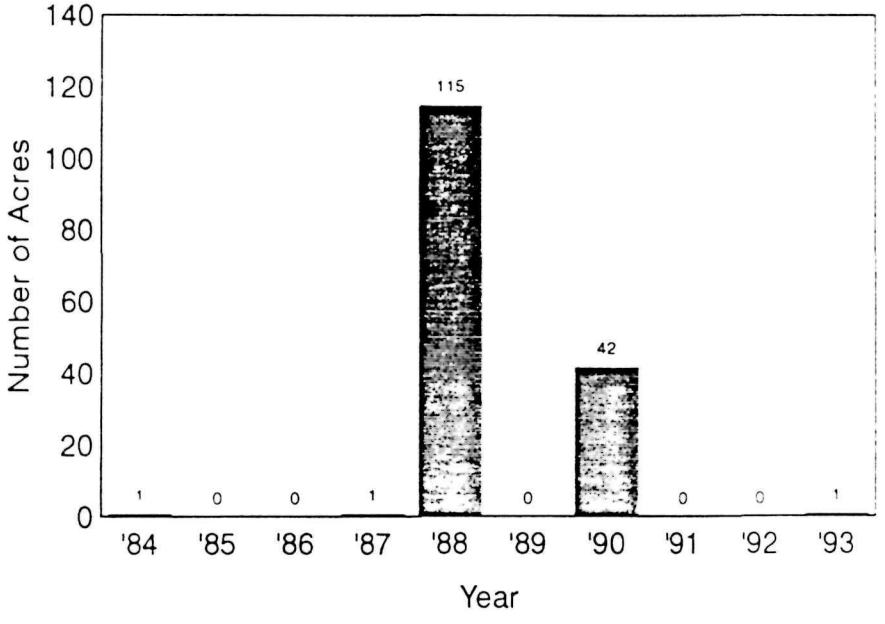
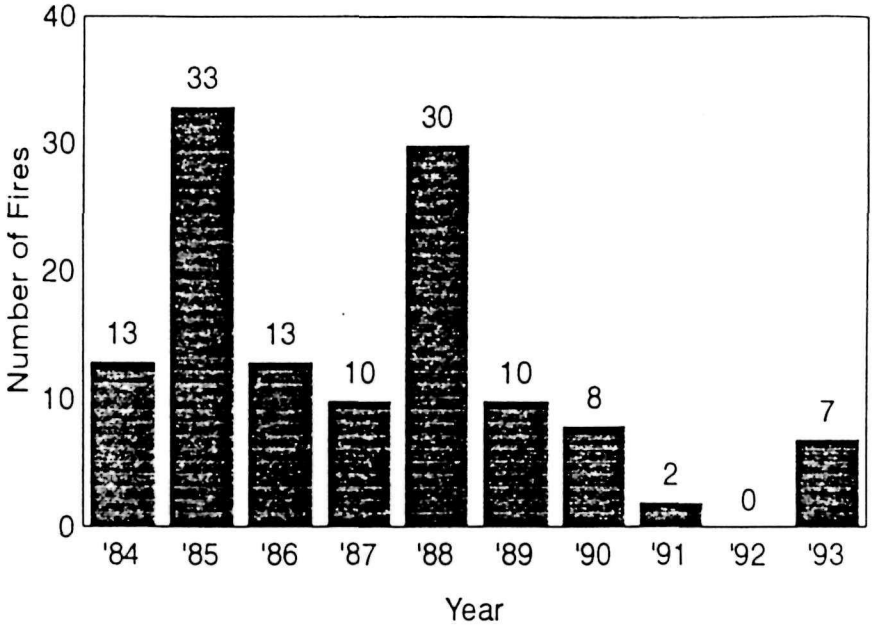


Table 30. National Capital Region Wildfires, 1984 - 1993



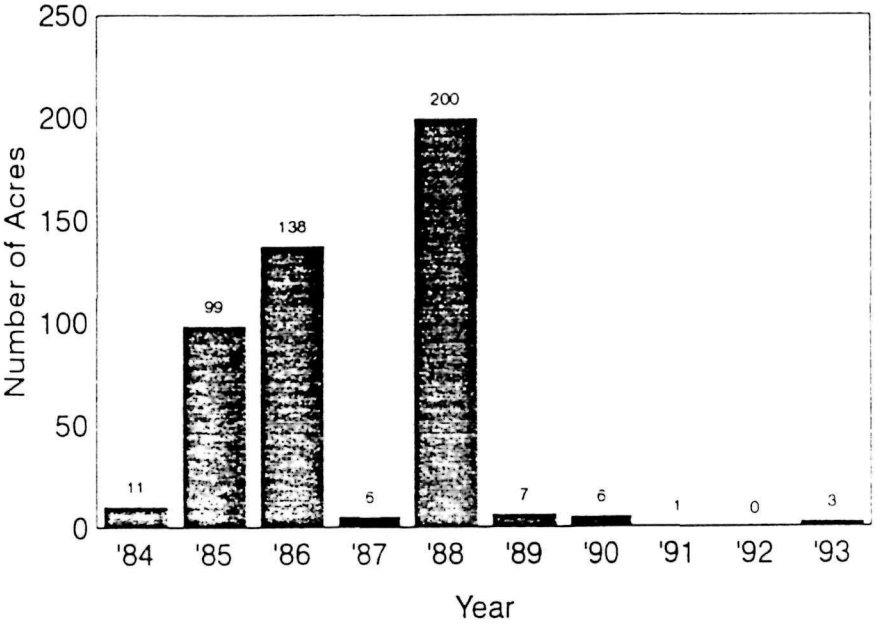
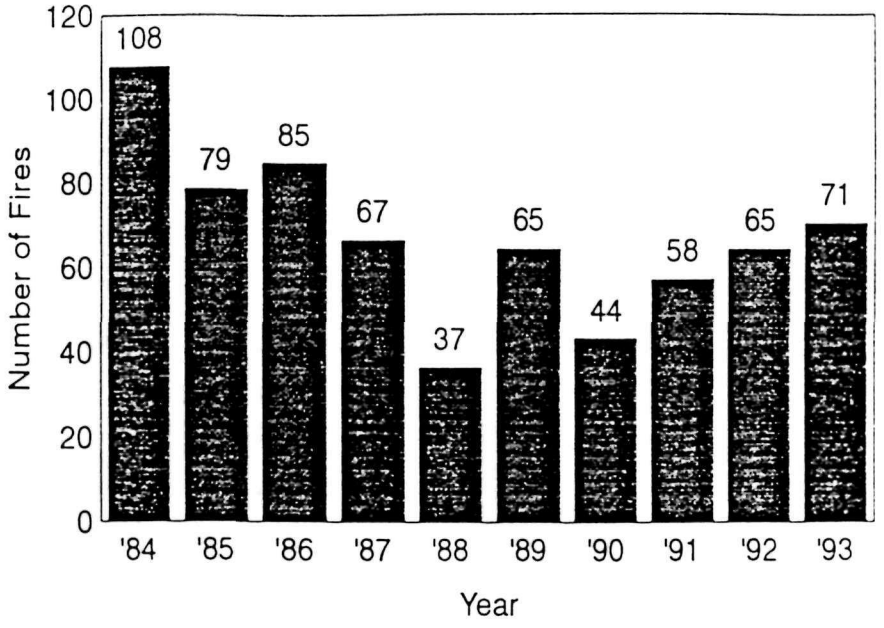


Table 31. North Atlantic Region Wildfires, 1984 - 1993



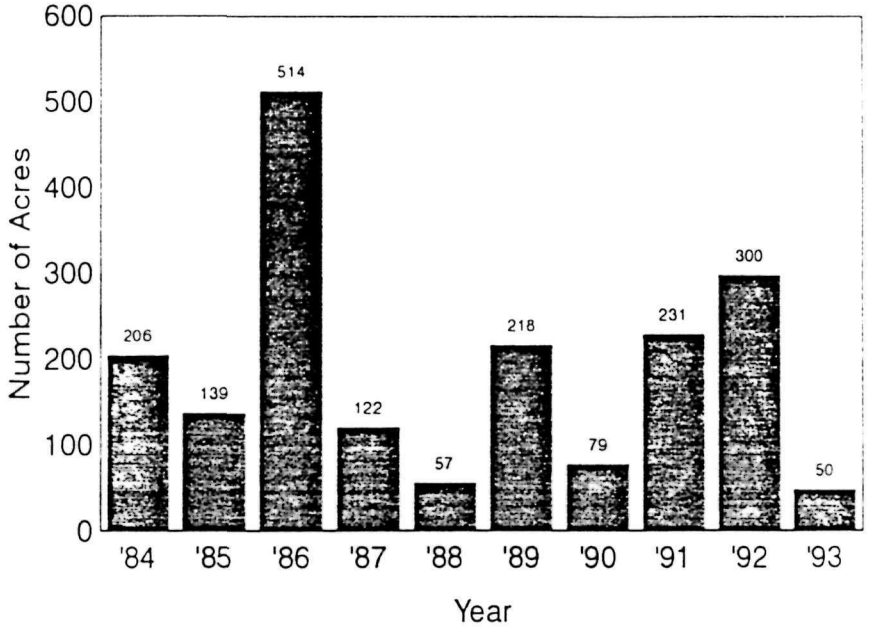
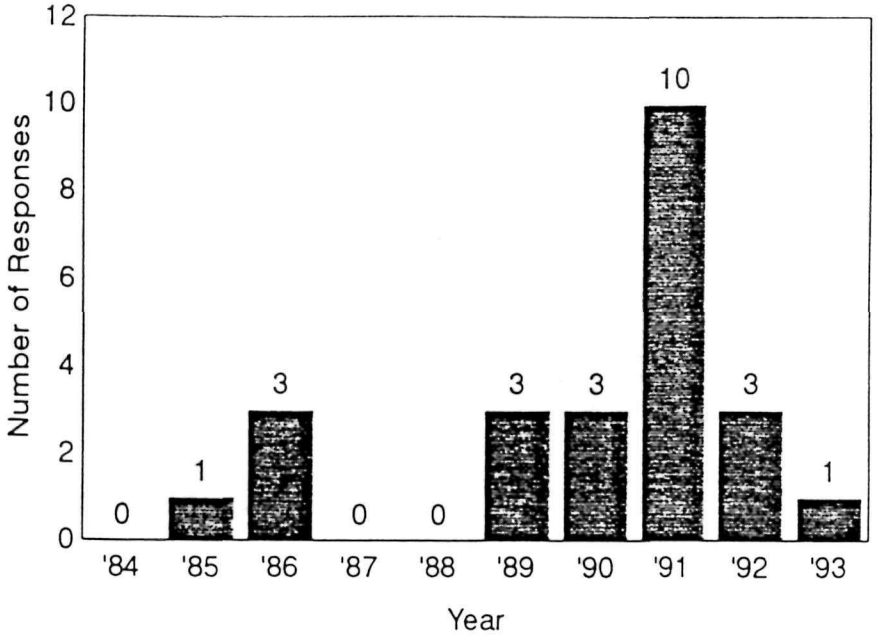


Table 32. North Atlantic Region Mutual Aid Responses, 1984 - 1993



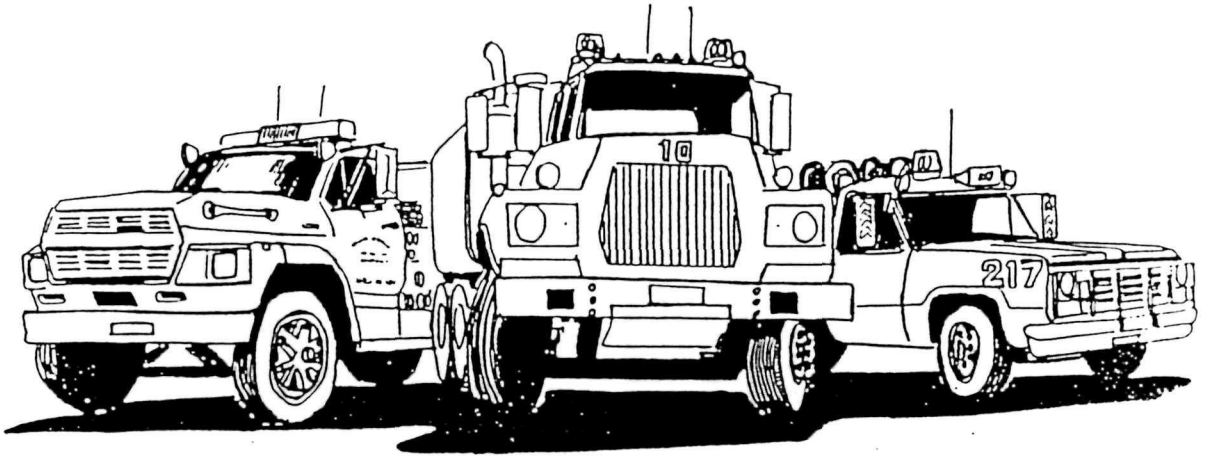
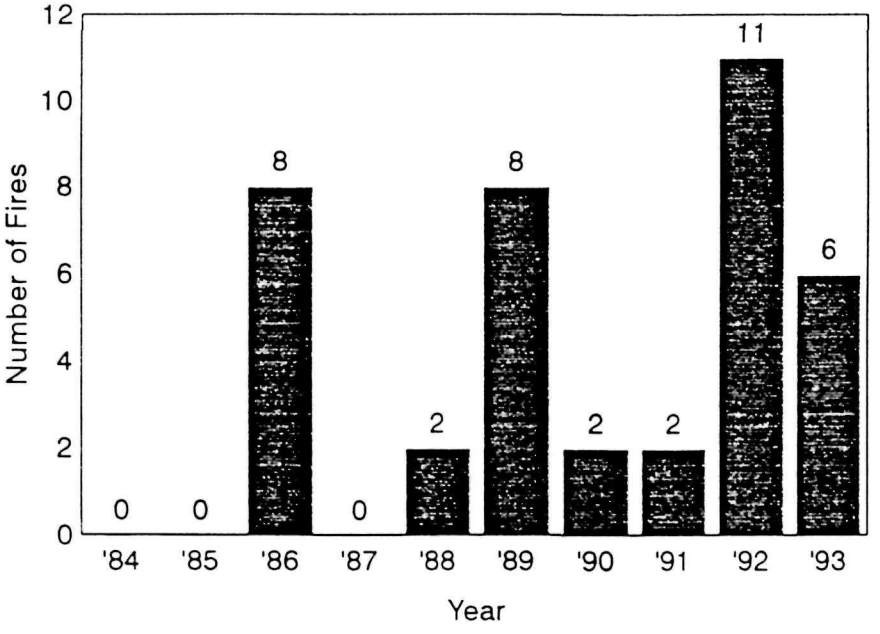


Table 33. North Atlantic Region Management Ignited Prescribed Burns, 1984 - 1993



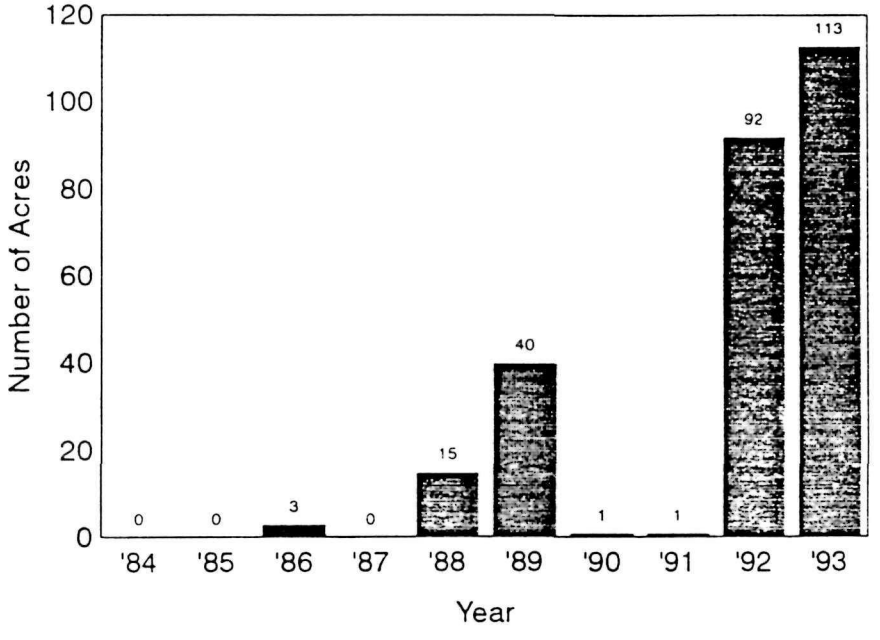
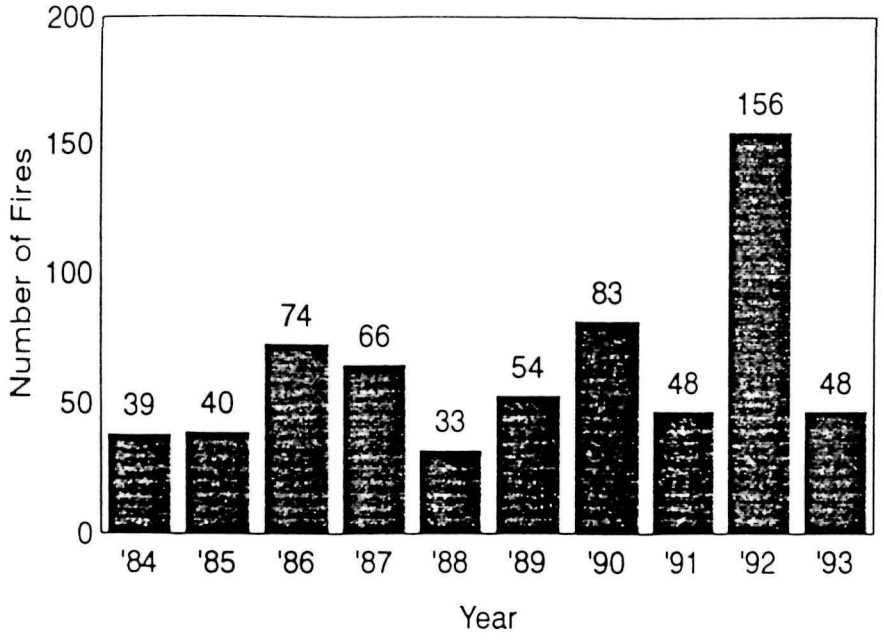


Table 34. Pacific Northwest Region Wildfires, 1984 - 1993



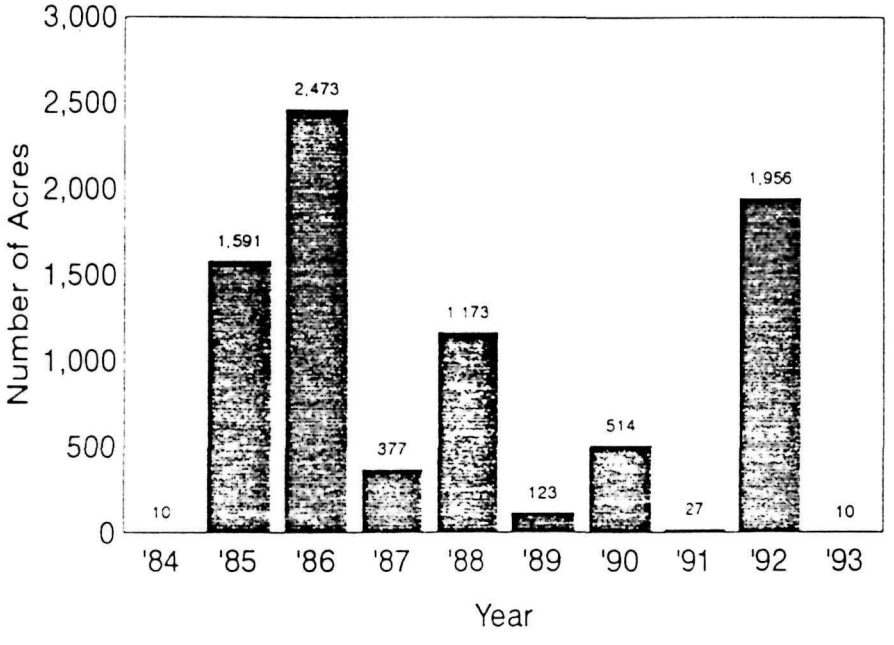
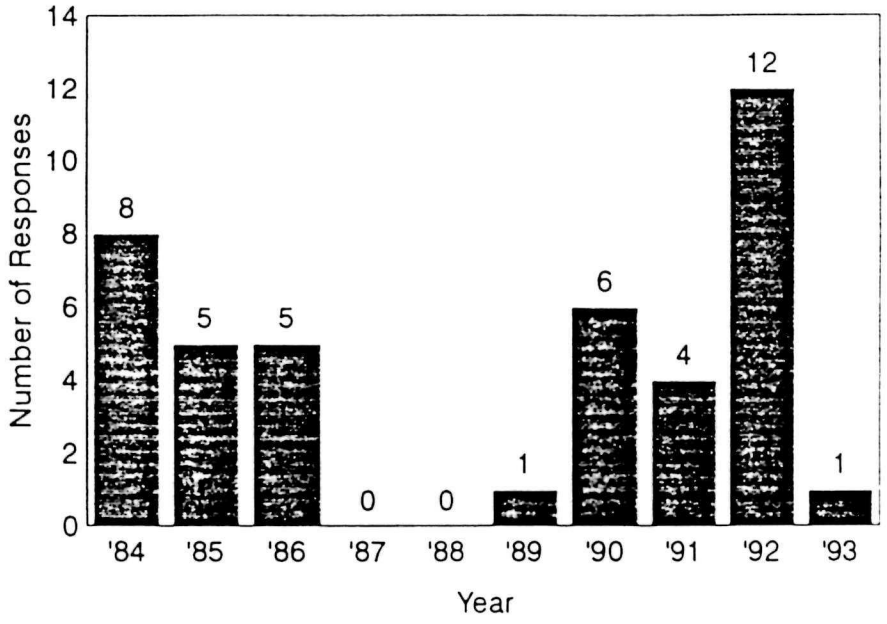


Table 35. Pacific Northwest Region Mutual Aid Responses, 1984 - 1993



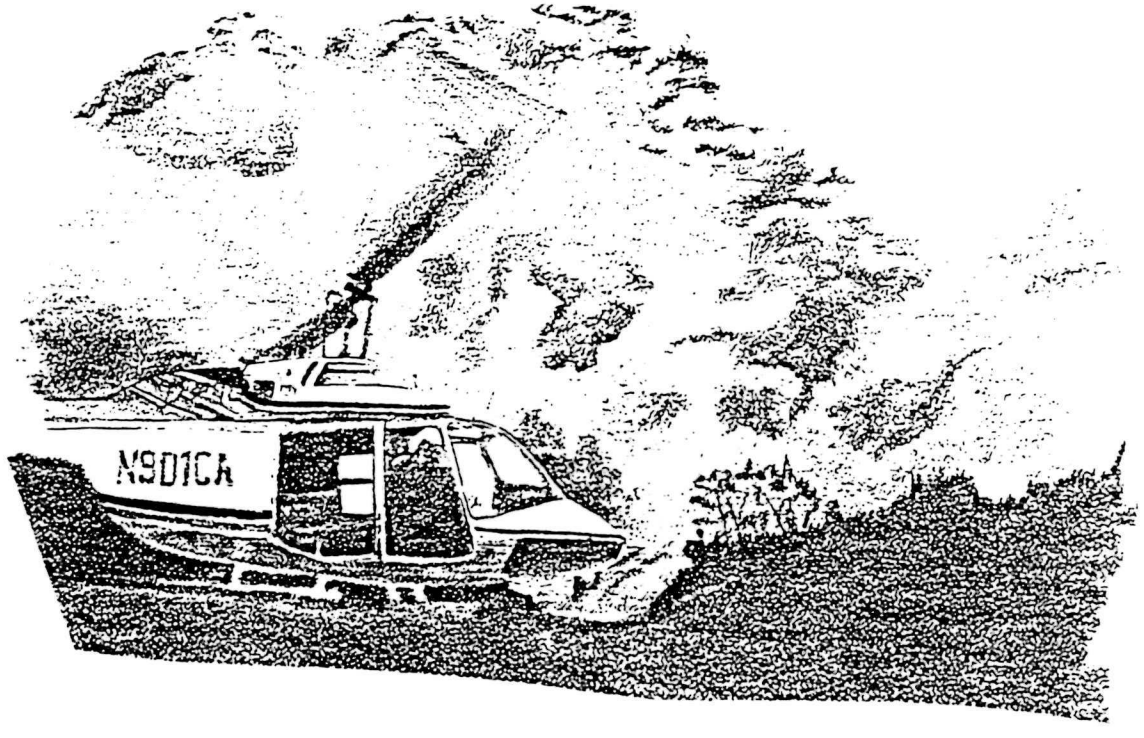
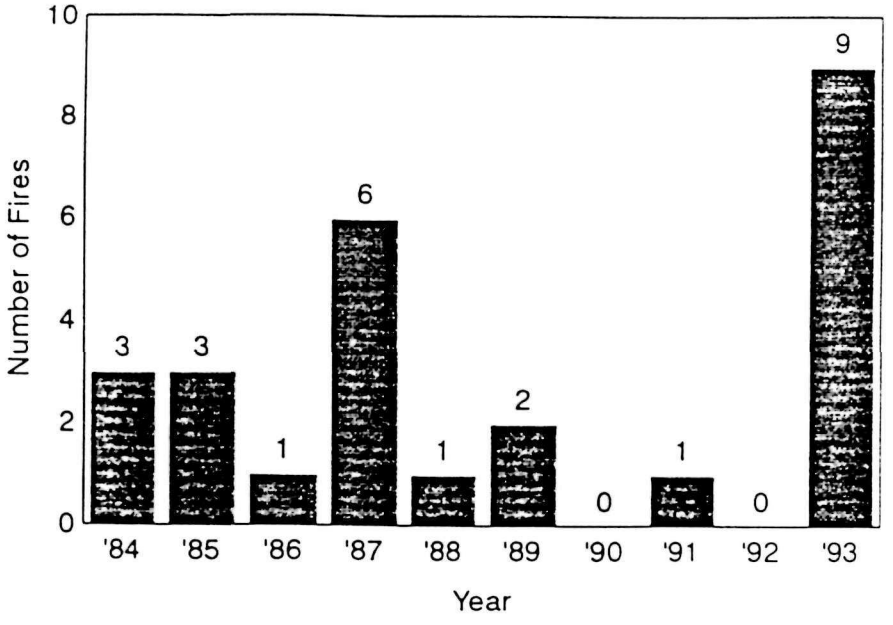


Table 36. Pacific Northwest Region Management Ignited Prescribed Burns, 1984 - 1993



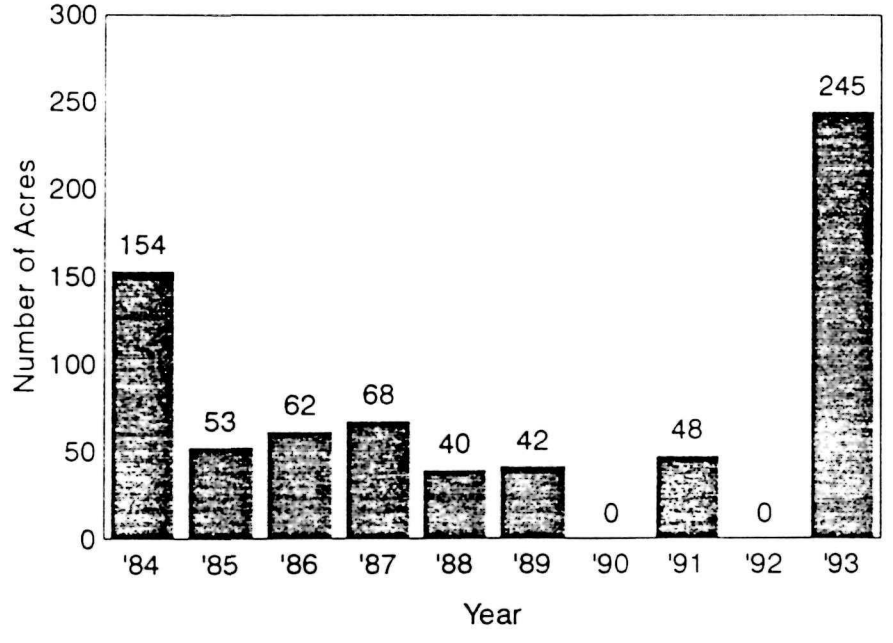
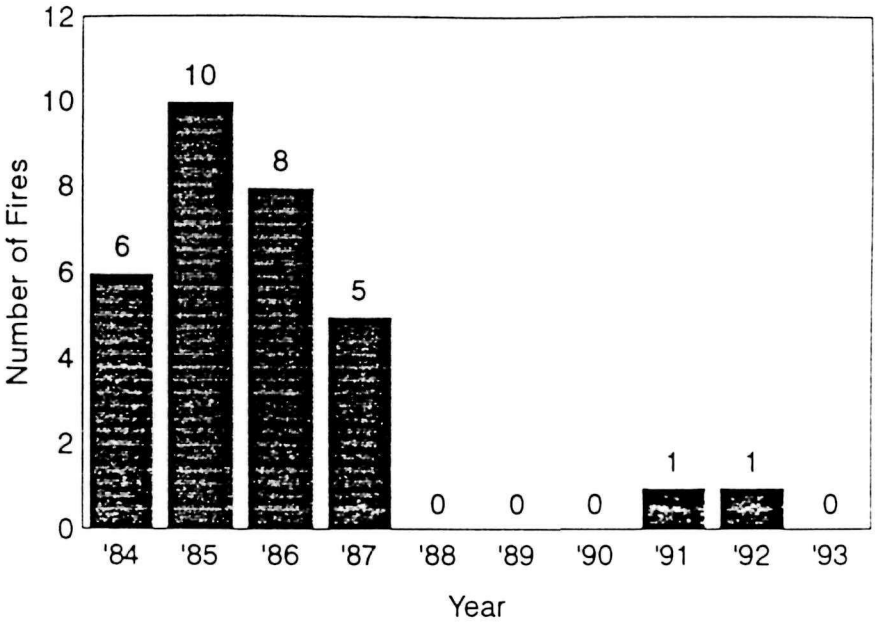


Table 37. Pacific Northwest Region Prescribed Natural Fires, 1984 - 1993



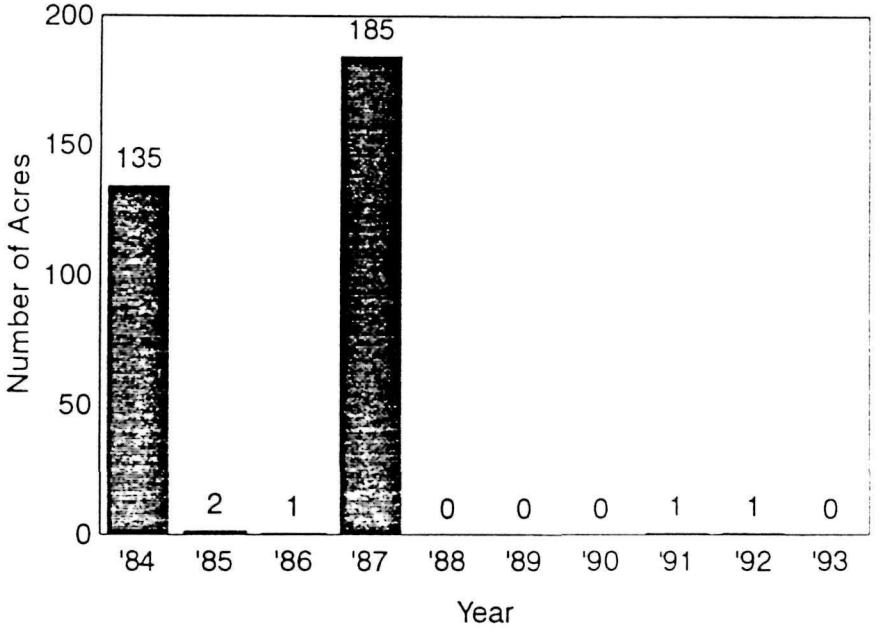
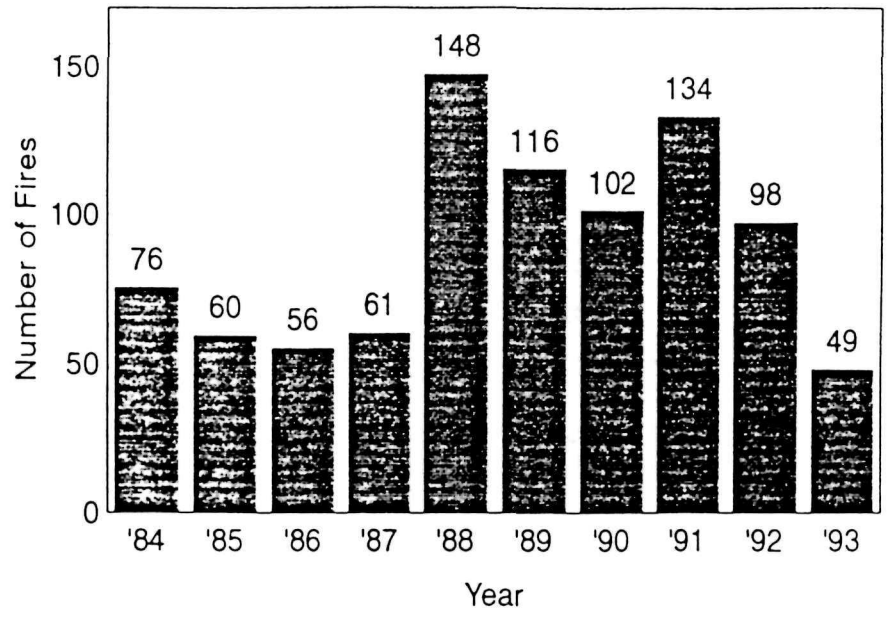


Table 38. Rocky Mountain Region Wildfires, 1984 - 1993



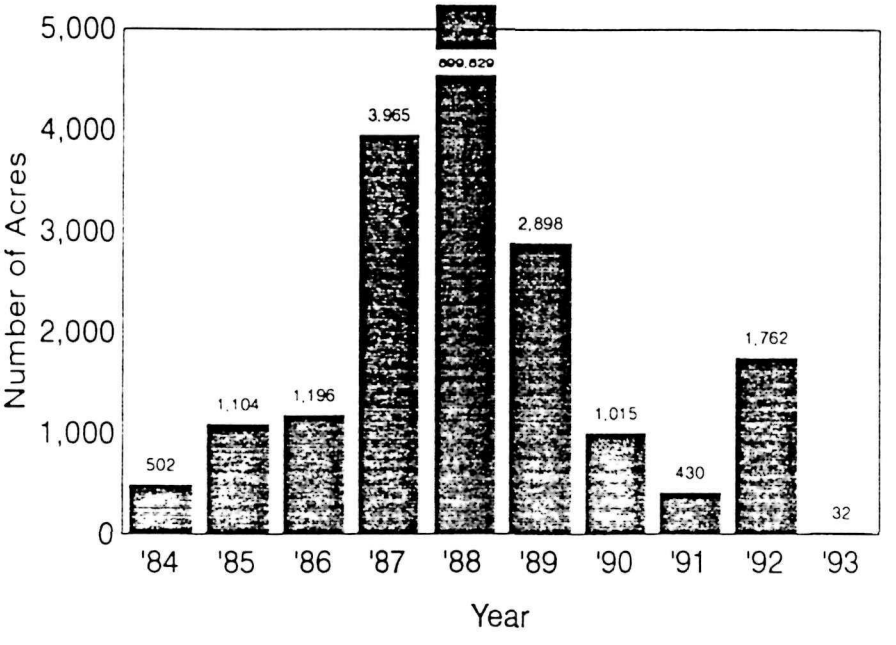


Table 39. Rocky Mountain Region Mutual Aid Responses, 1984 - 1993

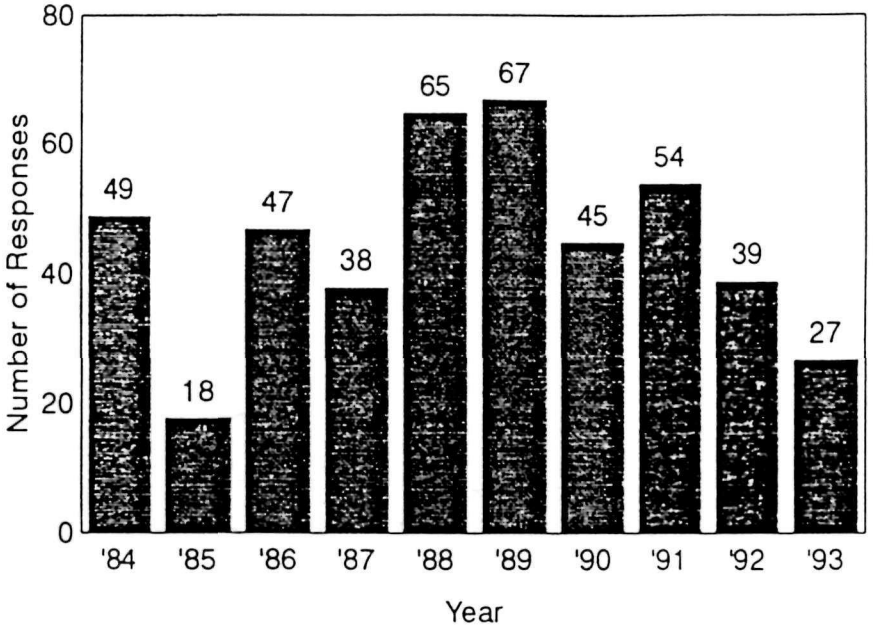
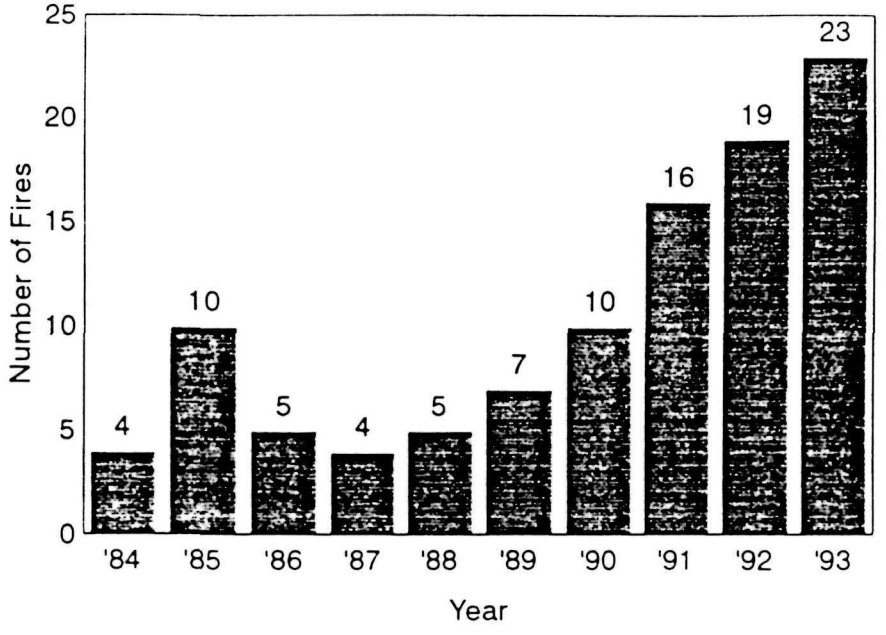


Table 40. Rocky Mountain Region Management Ignited Prescribed Burns, 1984 - 1993



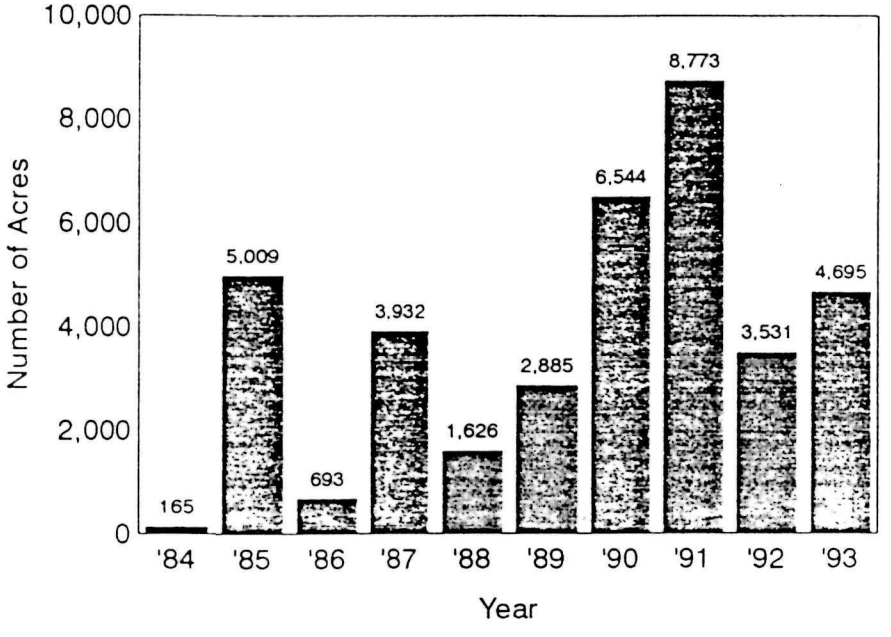
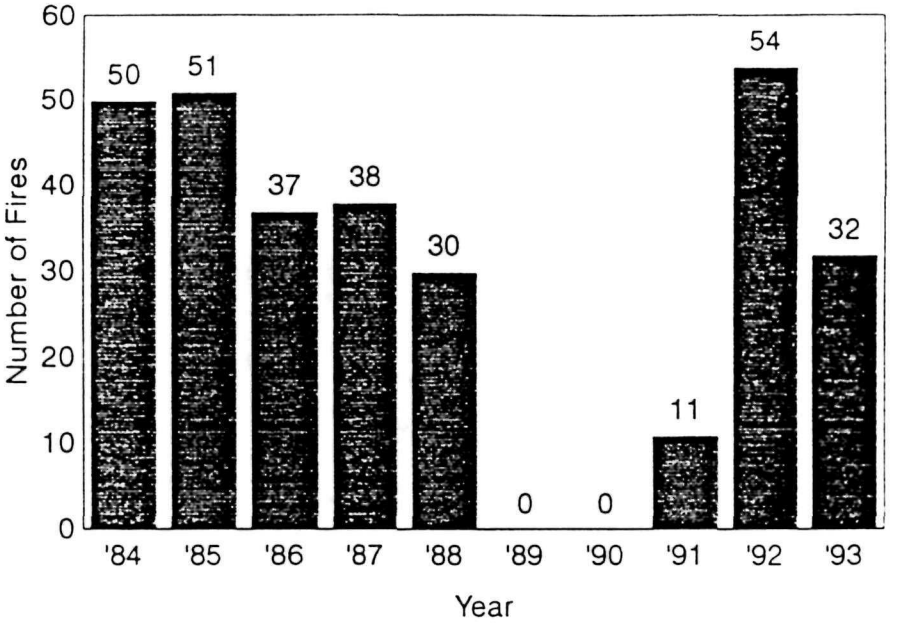


Table 41. Rocky Mountain Region Prescribed Natural Fires, 1984 - 1993



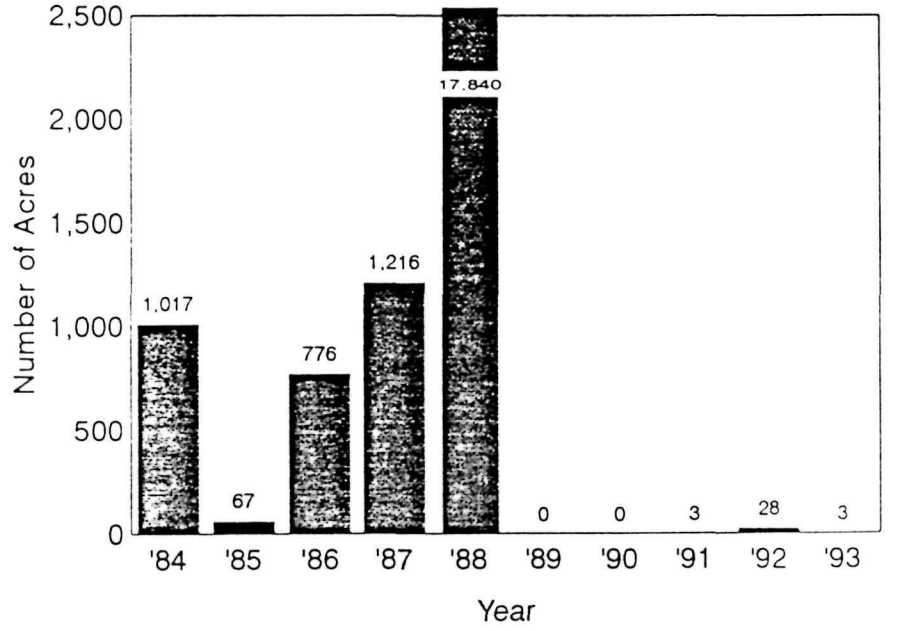
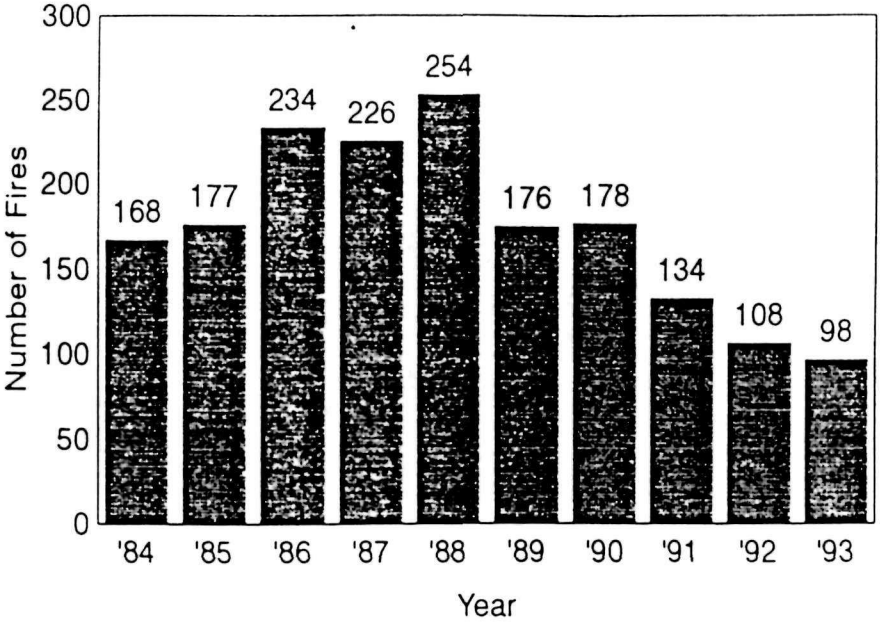


Table 42. Southeast Region Wildfires, 1984 - 1993



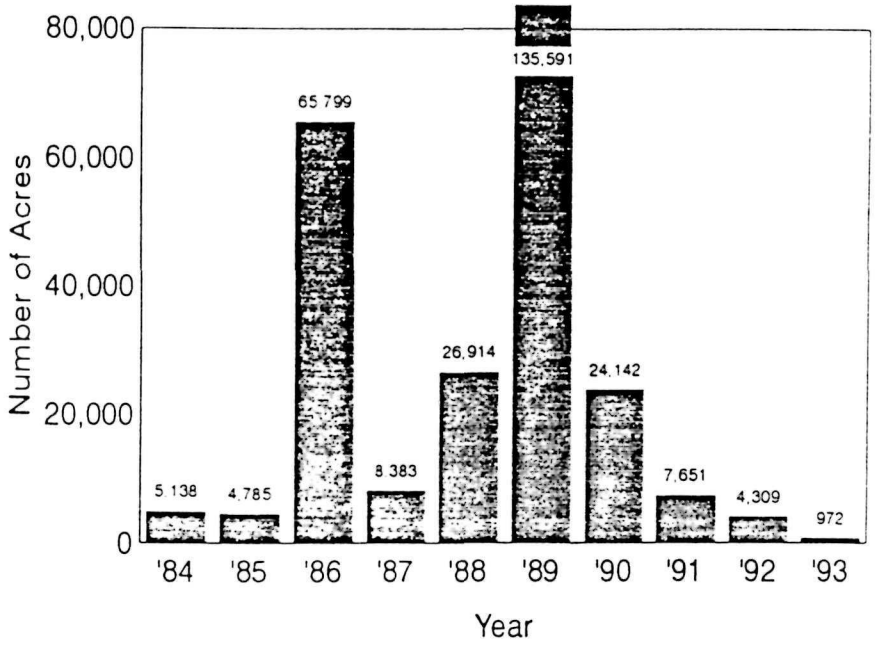
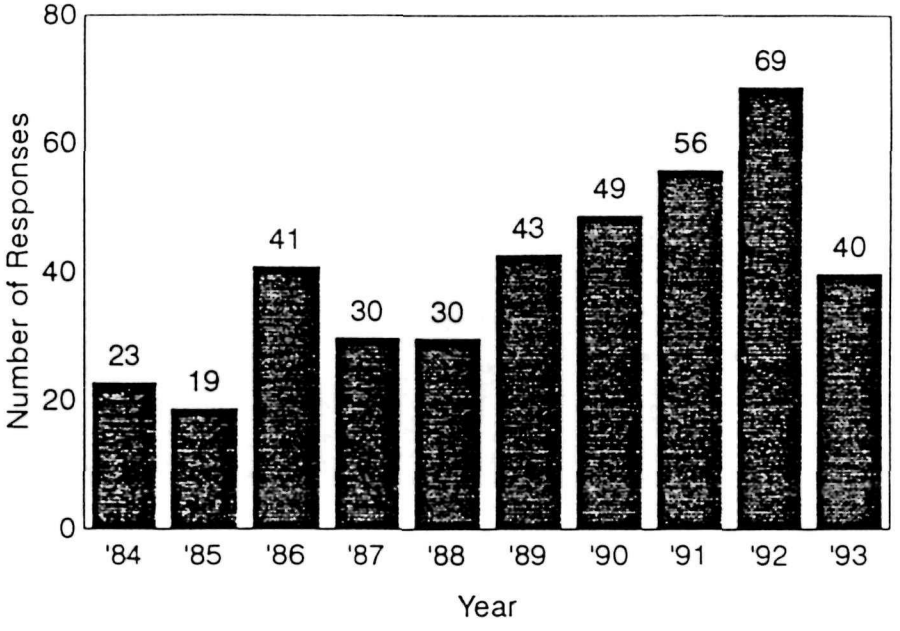


Table 43. Southeast Region Mutual Aid Responses, 1984 - 1993



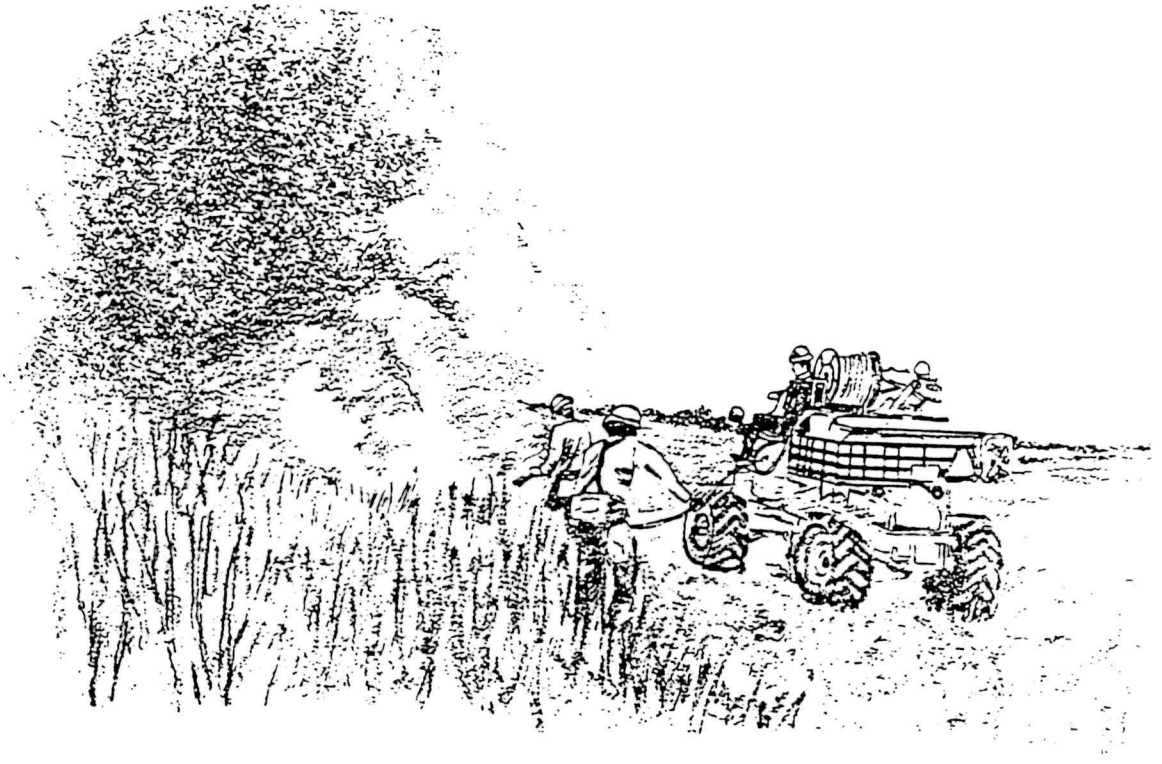
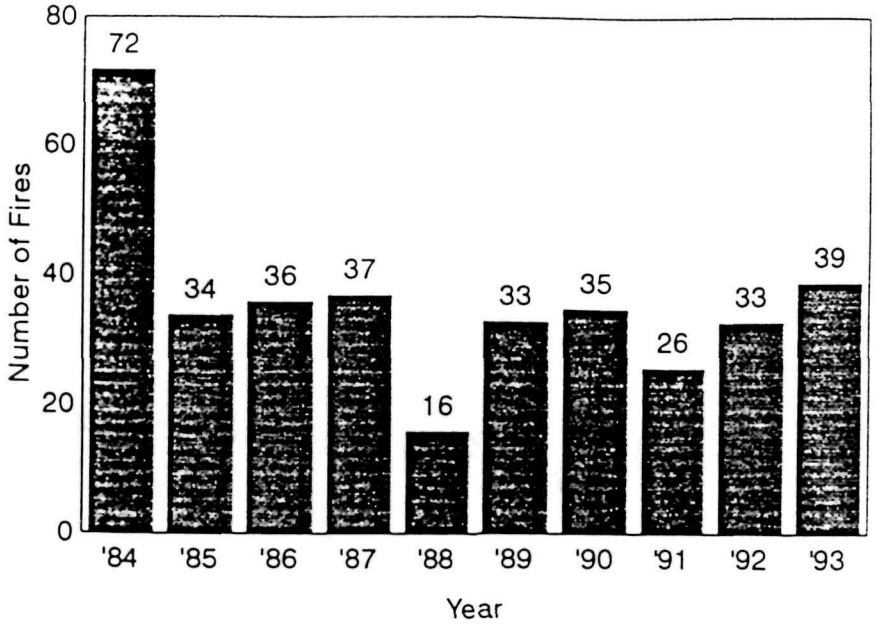


Table 44. Southeast Region Management Ignited Prescribed Burns, 1984 - 1993



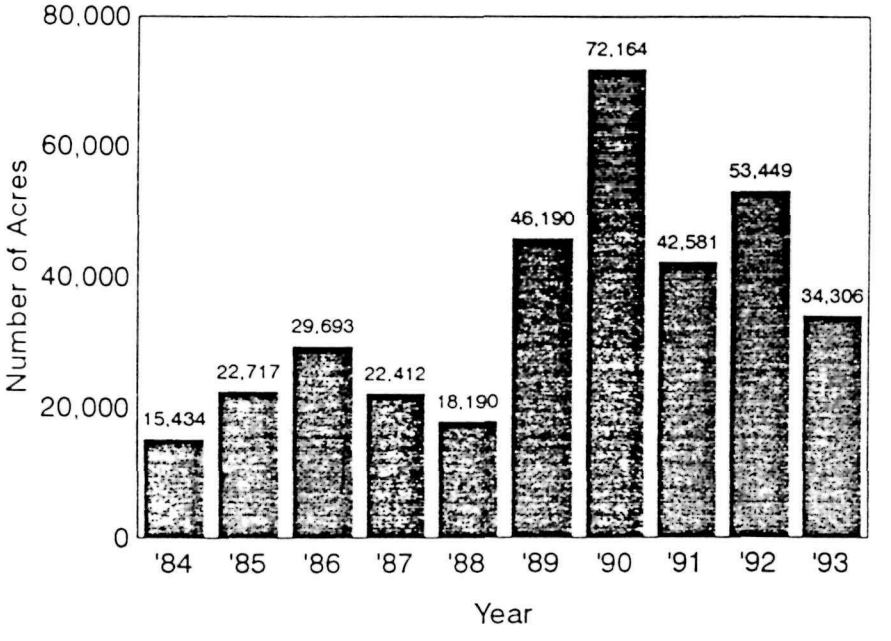
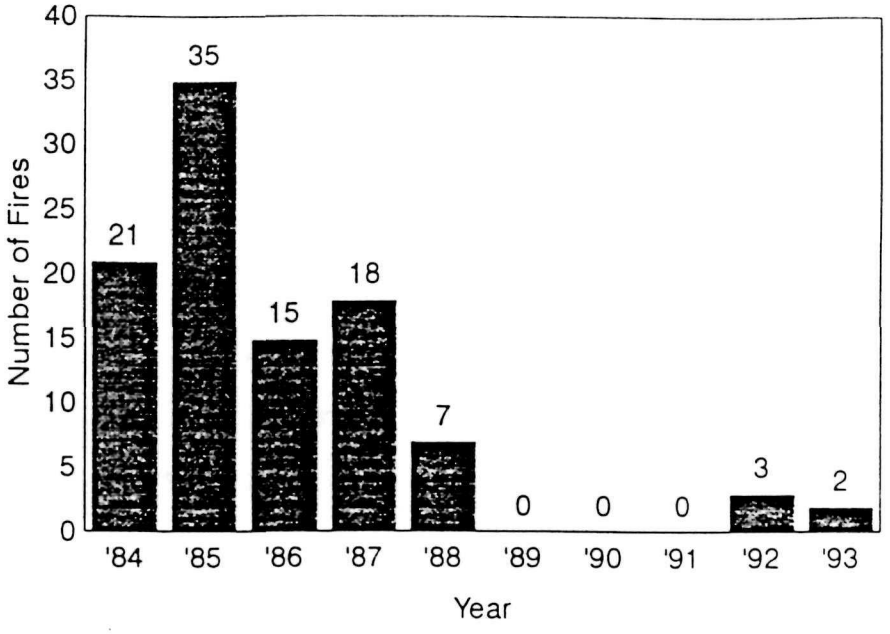


Table 45. Southeast Region Prescribed Natural Fires, 1984 - 1993



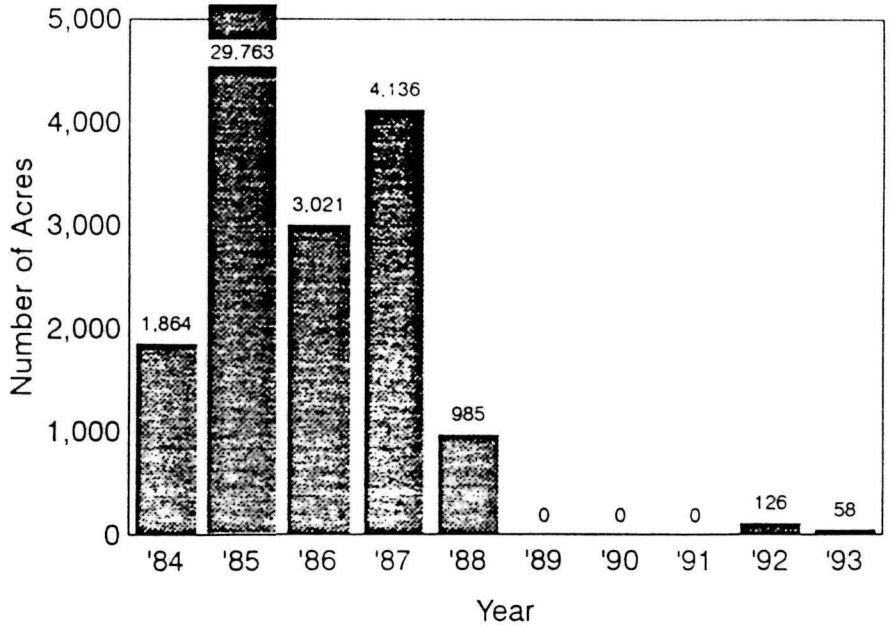
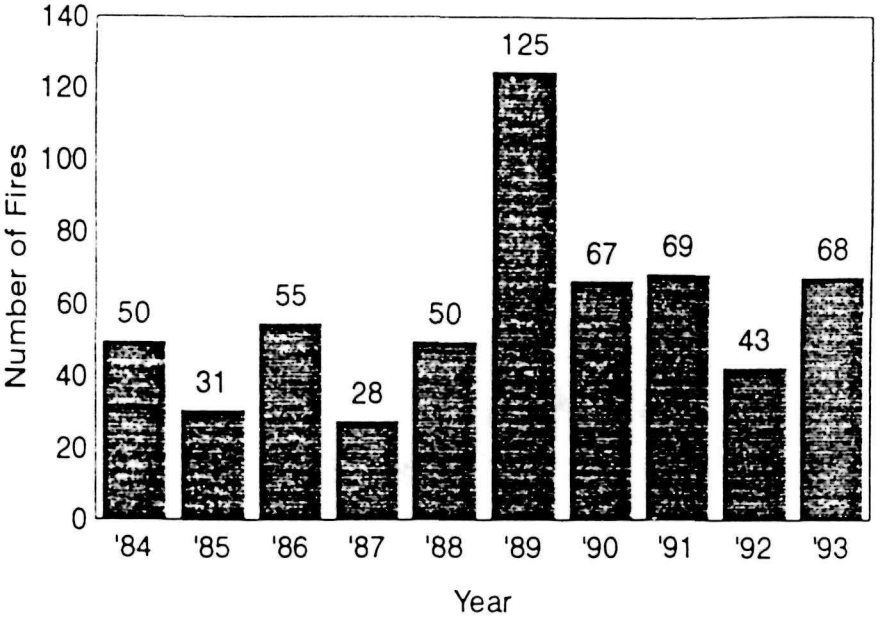


Table 46. Southwest Region Wildfires, 1984 - 1993



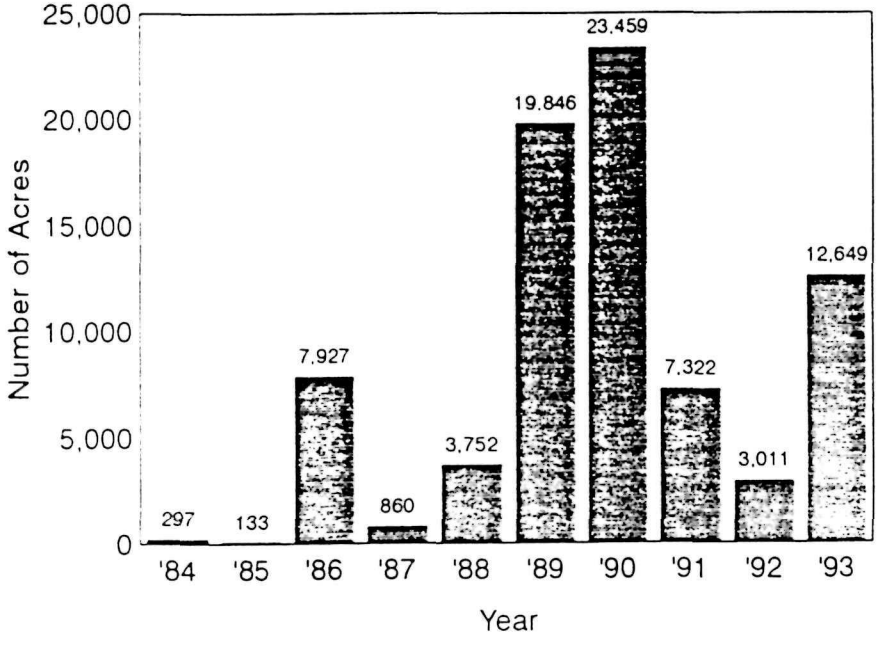
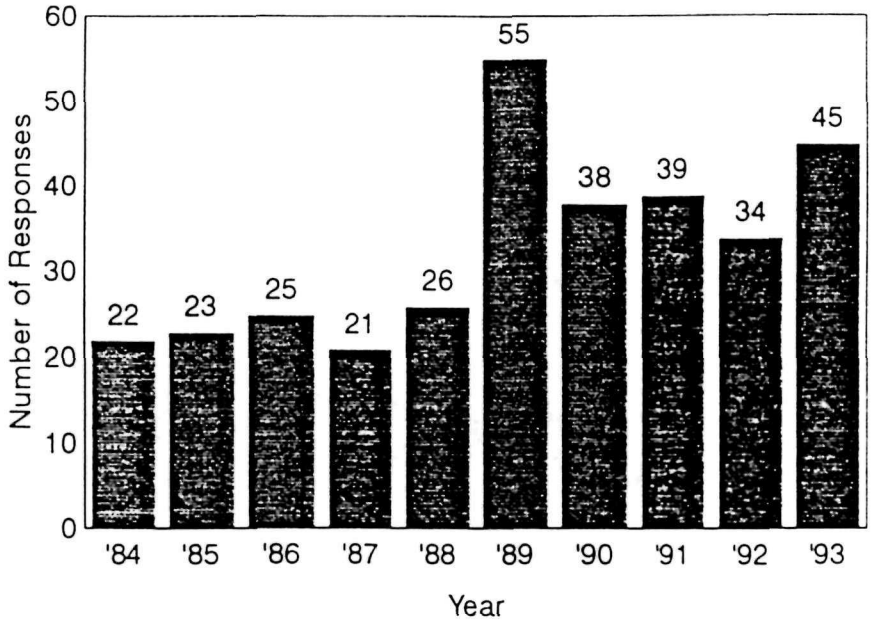


Table 47. Southwest Region Mutual Aid Responses, 1984 - 1993



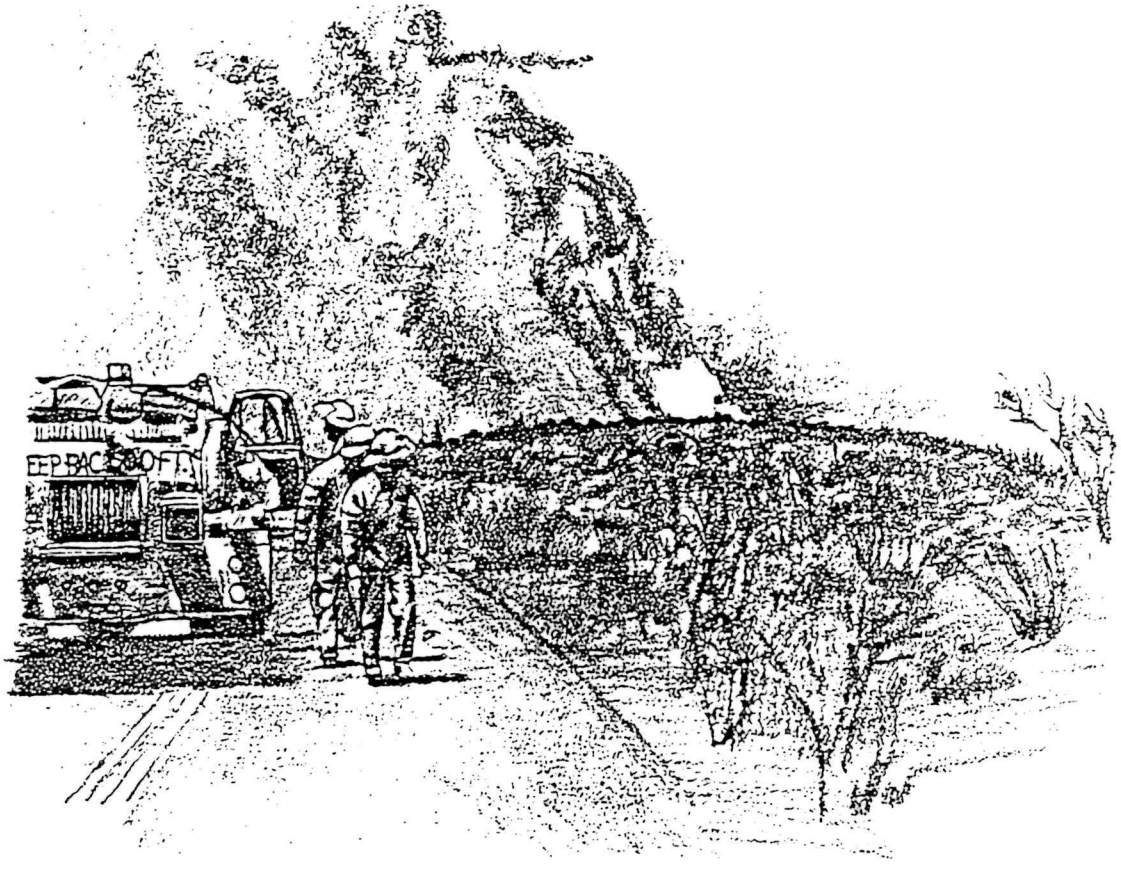
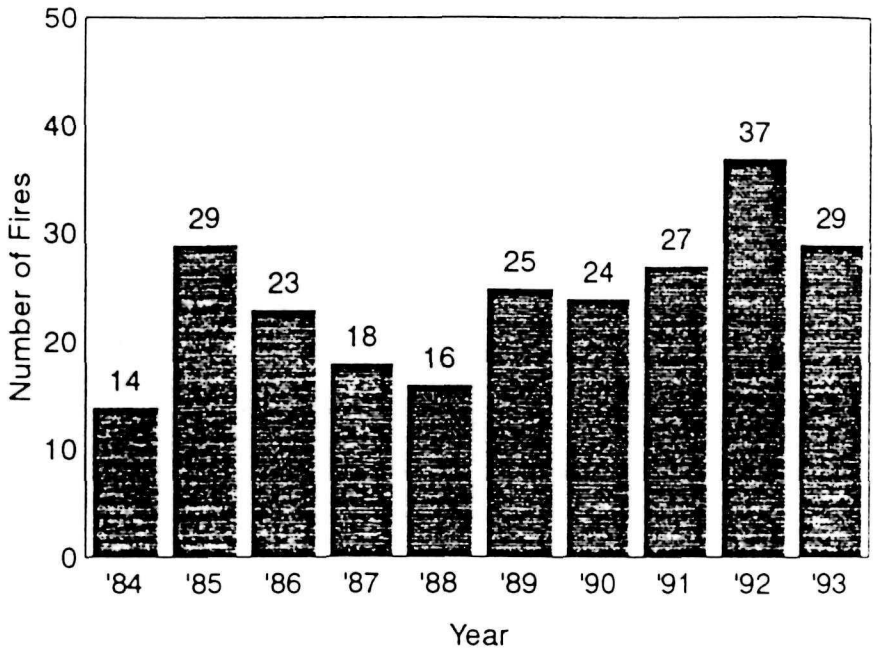


Table 48. Southwest Region Management Ignited Prescribed Burns, 1984 - 1993



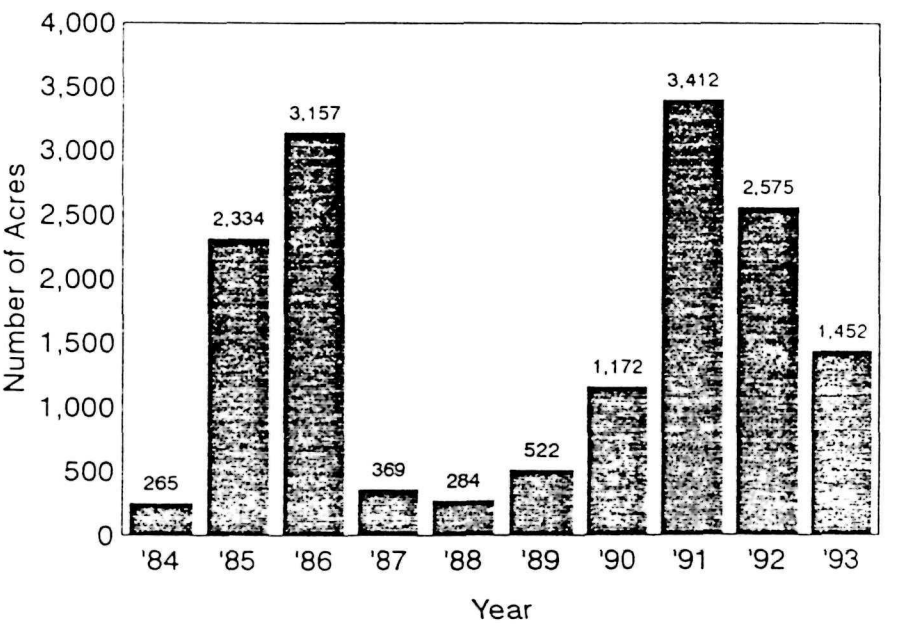
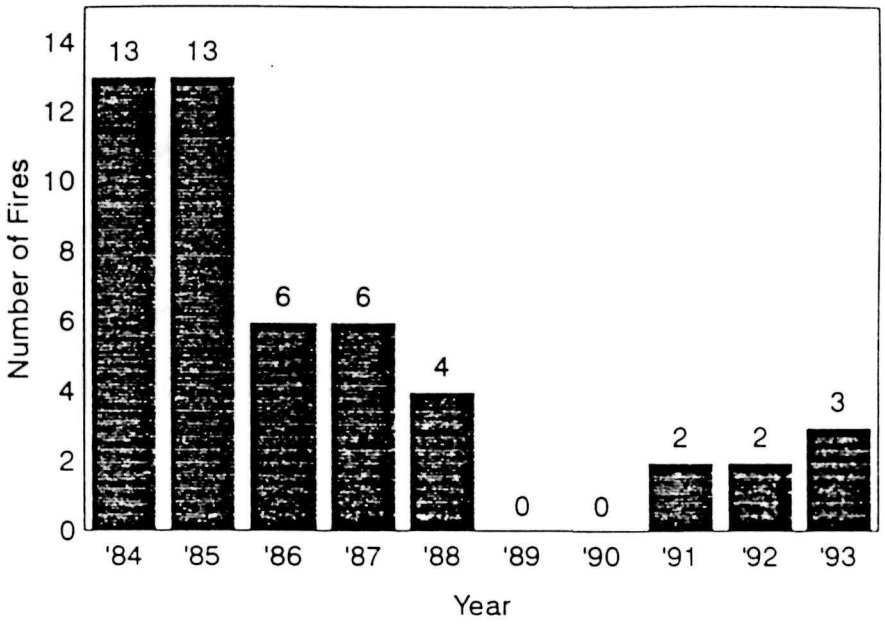


Table 49. Southwest Region Prescribed Natural Fires, 1984 - 1993



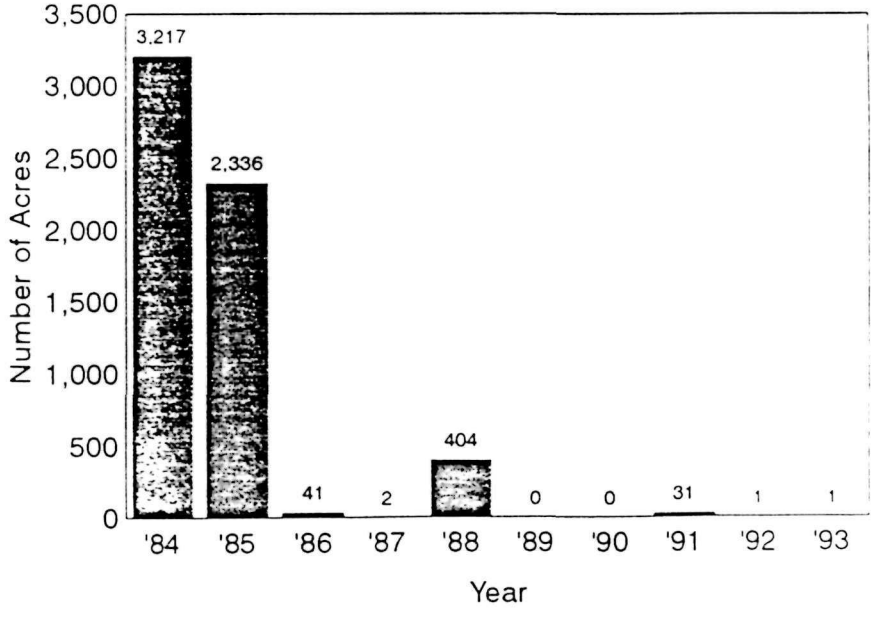
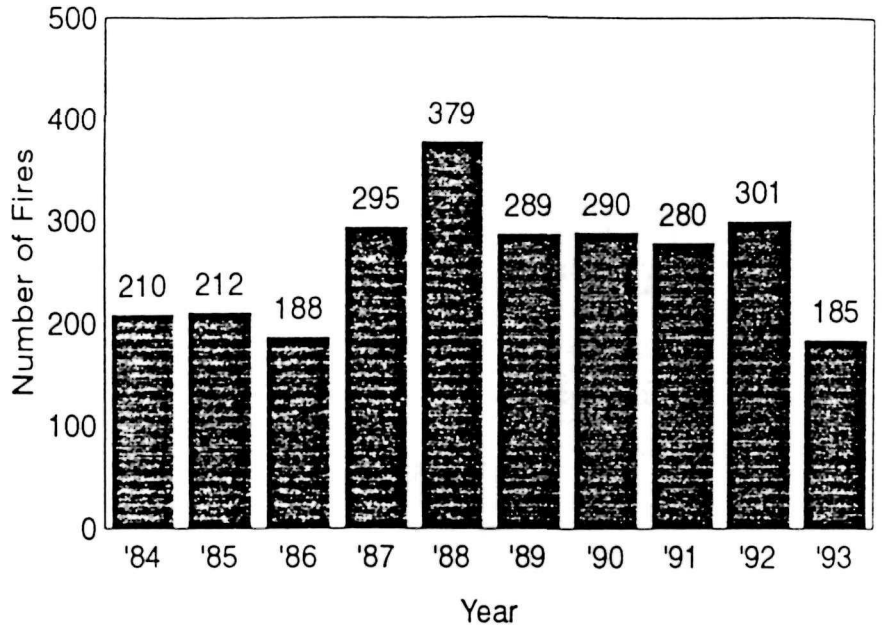


Table 50. Western Region Wildfires, 1984 - 1993



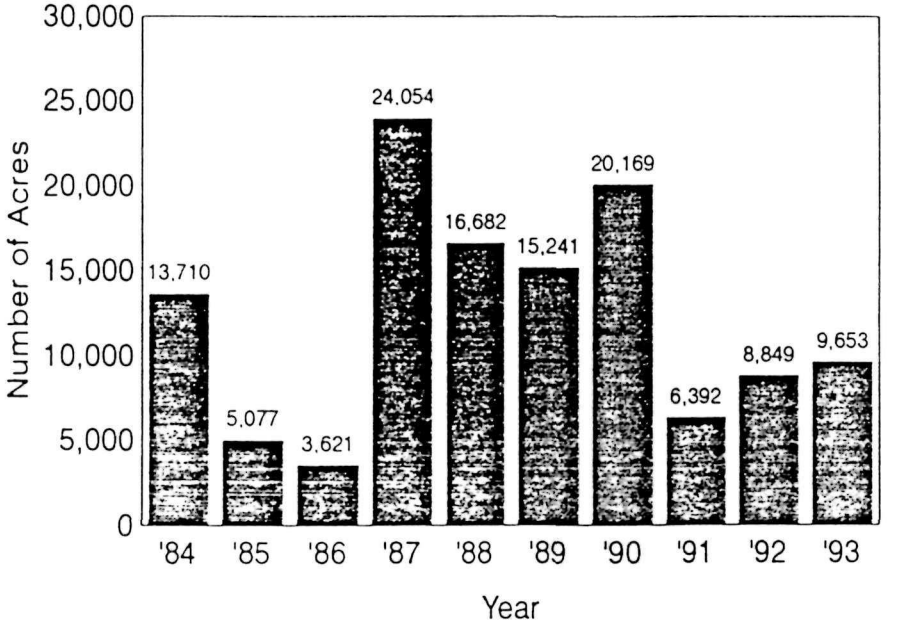


Table 51. Western Region Mutual Aid Responses, 1984 - 1993

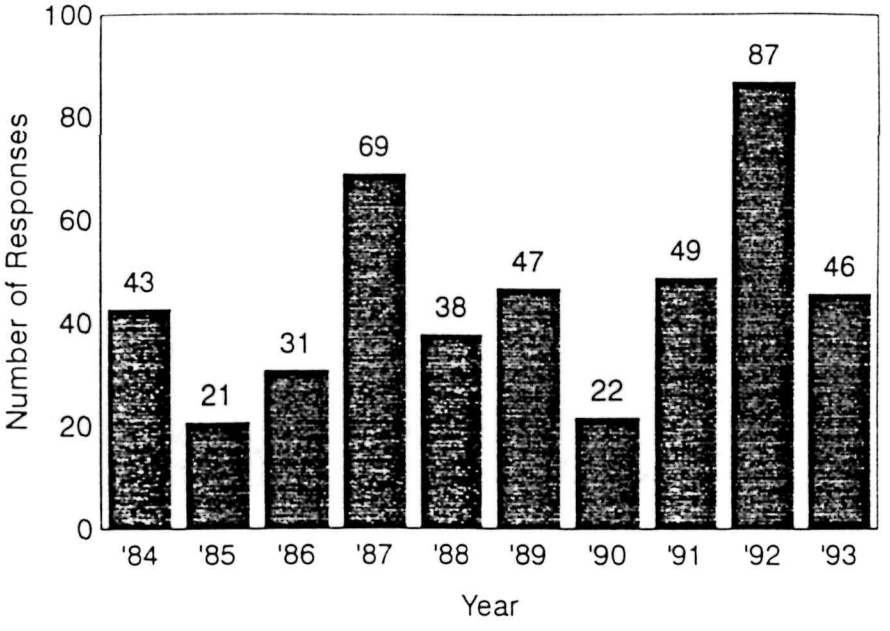
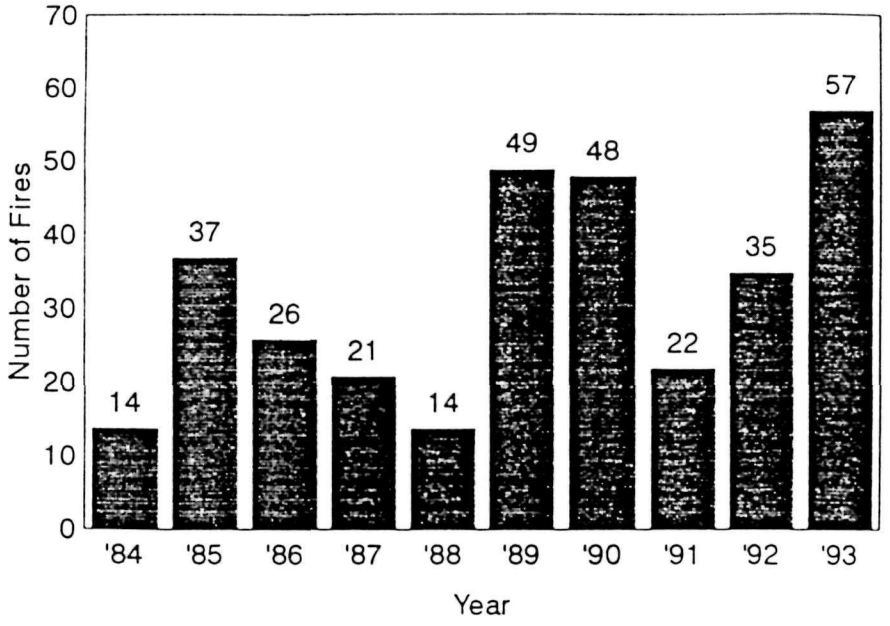


Table 52. Western Region Management Ignited Prescribed Burns, 1984 - 1993



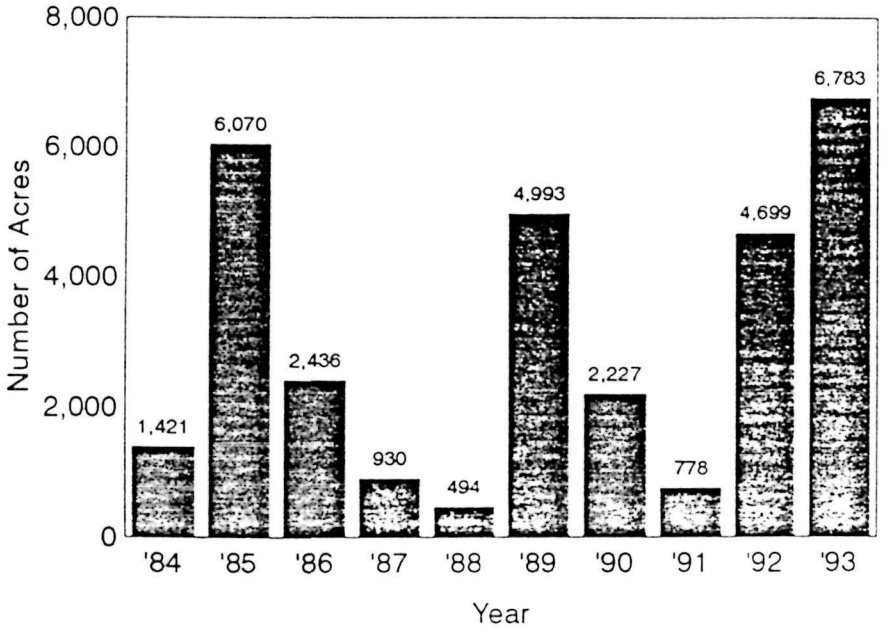


Table 53. Western Region Prescribed Natural Fires, 1984 - 1993